American Aviation

Independent Voice of American Aeronautics

APRIL 15, 1943

foring is in the Air

V(.)LD seem from recent utterances of portant aviation leaders that private orise is rising to the challenge of the

ROWEN posts Com awak rent gress of co vidua initia

postwar air world. Combined with the awakening in the current session of Congress, this new spirit of confidence in individual and corporate initiative is an inspir-

ren in the midst of a devastating world

nest R. Breech, president of the far-flung ix Aviation Corporation, told an Illinois facturing group in Chicago late in March business leaders have too often refused ep to the front and do their part in trying anta n the rights of free enterprise. Only thy, he said, have we seen a tendency for less leaders to be willing to stand up in of the people and speak their minds for they know is just and right. This is said, sound talk and Ernest Breech ed to speech with predictions of things one to prove he wasn't talking through air.

Now York in mid-March brainy and ble Ralph S. Damon, presently head of the Aviation Corporation, minced no is in condemning the blundering bureauss-management of aviation in Wash-dud said that aviation has an almost future—if it isn't stifled politically. The before the Sales Executive Club, isly in the April 1 American Aviation, one of the frankest and most intelligent in utterances ever heard from an aviation utive.

ne challenge for action and articulation has ted ahead on many fronts. Following the placed in the hopper similar ambitious irainer outes from Boston to Moscow and reference European capitals, Northwest Airlines placed in the hopper similar ambitious ications for routes to the Far East as far cutta, India. Northeast Airlines has another important step by filing for opter air mail service throughout New and United Air Lines' new airline in ico, approval for purchase of which is before the Civil Aeronautics Board, extended operations to the Gautemalan er, another southward thrust which may

(Turn to page 8)



Future Feeder Plane?

Because of its ability to land on rooftops and in small areas, Sikorsky's helicopter is in the news as CAB announces investigation into the feeder air.ine situation and Northeast Airlines asks to use helicopters for post officeairport operations.

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Late Bulletins

Plan National AWPC

Climaxing rapid developments of the past two weeks, a joint meeting of directors of east and west coast Aircraft War Production Councils was to be held in Los Angeles Apr. 13 to complete organization of a national council representing the nationals airframe manufacturers and other important units of the industry. Frank F. Russell, president of National Aviation Corp., New York, is slated to head the new enterprise, which will have its main offices in Washington, D. C.

Incorporation papers for the nonprofit corporation are being filed in the District of Columbia. The Aeronautical Chamber of Commerce is being invited to participate. Acceptance by the Chamber is anticipated, but up to a few days ago that organization had not had an exportantiate of take formal action

opportunity to take formal action.

Prominent in bringing plans to completion were Robert E. Gross, president of Lockheed Aircraft Corp., and Glenn L. Martin, head of Glenn L. Martin Co.

Research is Booming: Economic research in aviation is being launched quietly and without traifare or publicity by three more important agencies in Washington: The Brookings Institution, Aeronautical Chamber of Commerce, and the Commerce De-

partment's awakening
Bureau of Foreign and
Domestic Commerce. All
have plans of varying
scope and definitude. Dr.
Harold G. Moulton, president and trustee of
Brookings, says a project
has been established
there, under direction of
Dr. J. Parker Van Zandt,



who has been directing the new Office of Air Trans port Information in the Commerce Department. Th program of the new aviation division is understoto include "an exhaustive factual investigation of the issues and factors entering into a determination post war international air transport policy," as w as economic aspects of domestic operation througho the world. Although no public announcement findings can be expected, it is possible that Dr. V. Zandt will release interim reports occasional Brookings has previously sponsored studies, some which appeared later in book form, but the no program, studying all phases of post war aviatiis the most comprehensive yet undertaken. Pu licity on the study probably will arouse interest industry because of Brookings' status as a no partisan, non-profit corporation, without axes to gri or prejudices to exercise.

The new reorganization chart of the Chamber she, an Economic Development Department, under J. hn Howard Payne as manager, with provision fo. a post war development committee and three tentative subcommittees yet to be set up, on planning and policy, research, and trade development. Also under consideration are several series of publications for Chamber members, including a bulletin service, special studies and reports, and directories. Purpose of the department would be to analyze, plan and report on problems not of a competitive nature, to work toward a coordinated viewpoint of the manufacturers, to prepare and submit to government agencies recommendations deemed advisable, and coprepare other studies as approved.

Dr. John Crane, who recently completed a confidential report for the Interstate Commerce Commision on commodities now rail-borne which ma carried profitably by air after the war (Amelianian Feb. 15, Page 1), has just been appointed of the Transportation Unit of the Bureau Foreign and Domestic Commerce. Officials conthat the unit heretofore has been concerned the development and problems of all types of domand foreign transportation, but indicate they will close scrutiny soon to expanded capabilities of transport in international commerce after the istice. Findings will be presented in a full at a later date. Before joining ICC, Dr. Crane professor of transportation at Northwestern University of the stransportation of the commerce of the stransportation at Northwestern University of the stransportation of the stransportation

(Turn to page 6)





In his first annual address to Congress in 1790, George Washington said, "To be prepared for war is one of the most effectual means of preserving peace."

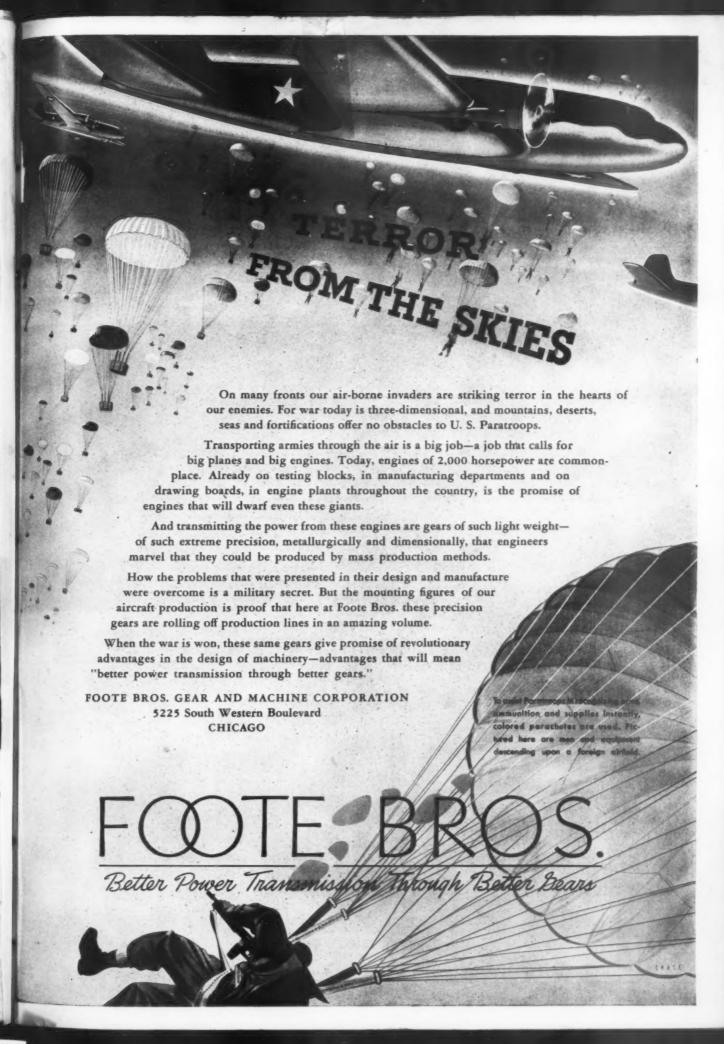
Today, in the midst of war, his advice might well read, "In time of war prepare for peace." For peace, like war, has definite objectives—which should be planned in advance.

When victory brings peace, the contributions

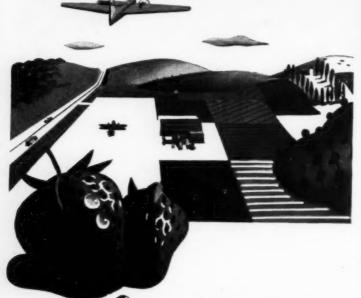
of industry no less than statesmanship, will help determine the kind of world we'll live in ... and aircraft will play an important role.

Right now, of course, war production is all important. At McDonnell, we're working three shifts making planes, parts, and plastics for our Armed Forces. But we're working too, toward the better aircraft and better materials which will be a part of tomorrow's better world.

MCDONNELL Aircraft Corporation mufacturers of PLANES . PARTS . PLASTICS * SAINT LOUIS - MEMPHIS *



THE TOMORROW YOU'RE FIGHTING FOR:



STRAWBERRIES AT YOUR TABLE, WET WITH MORNING DEW

Fresh strawberries, boysenberries, ripe figs . . . or, papayas from South America . . . at the luscious peak of field-ripened flavor! In the ration-free TOMORROW

Why? Because the air future you're helping to build with fighting planes will also produce a sturdy, round-bellied cargo plane which will land and take off on a roadside landing strip beside a growers' cooperative packing shed.

you'll enjoy them no matter where you live.

The refrigeration of such perishable cargo presents no problem because these air freighters will make excellent use of the natural cold at high altitudes.

TOMORROW'S fast "Air Freight" will provide overnight shipments with door delivery to any place in America, whether it be orchids, topcoats, or machinery

The speed and flexibility of TOMORROW'S Air Freight will supplement . . . not compete with . . . rail and truck. Out of the destructive weapons we must build today will come better tools of peace. Think of that too, while you do your job.

*In spite of Air Transportation's rapid growth, only 240 out of 3,464 cities in the United States are today directly served by airlines. Nineteen air carriers, including Western Air Lines, have already filed application for 43,614 miles of feeder lines to serve 2,530 cities after the war.



General Offices: Lockheed Air Terminal, Burbank, Calif.

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April 15,

1924

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American Aviation for April 15, 19

2.

Trail Blazing in the Skies



THE FIRST U.S. NAVY AIRPLANE

to be built with duralumin structural members was the Martin MS-1, produced in 1924. These members were formed by Goodyear for the Glenn L. Martin Company. This important work was entrusted to Goodyear because of our previous experience in building duralumin keels for military airships - the first use of this metalalloy by any private aircraft manufacturer in the United States.





THE FASTEST NAVY

in service today is this Corsair fighter. This airplane is now also being built by Goodyear from specifications of the Chance Vought Division of United Aircraft Corporation, the Goodyear version being designated as the FG-1. Into the building of this all-duralumin ship goes all of Goodyear's long experience in fabricating metal aircraft structures. Although it is faster, longerranged and more powerfully armed than any other Navy fighter now in action, its weight is remarkably low for all that is packed in itproof of superior design and construction.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AVIATION INDUSTRY

- 1. By building parts to manufacturers' speci-
- 2. By designing parts for all types of planes.
- 3. By re-engineering parts for mass production.
- 4. By extending our research facilities to aid the solution of any design or construction

GOOD **AIRCRAFT**

-26



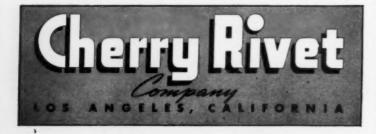
The self-plugging Cherry Rivet is used in the hard-to-get-at places in new airframe construction, in airframe salvage work and in field repair. No bucking bar is needed. Application is fast and the resulting joint has high shear and fatigue values.

The above diagram of an LS 1128 Countersunk Cherry Rivet in double dimpled sheets shows how the mechanical forces exerted by the mandrel in the riveting process hold the sheets together and expand the rivet shank to fill irregularities in the hole.

WRITE FOR NEW HANDBOOK . . .

A new 16 page handbook, giving all details on Cherry Rivets and how to apply them, is available on request. Address Department 4, Cherry Rivet Company, Los Angeles, California.

MEDRY BIVETS, THEIR MANUFACTURE AND APPLICATION ARE COVERED BY U. S. PATENTS ISSUED AND PENDING.



(Continued from page 1)

Services Win Control of Planes: WPB officials mously amazed at action of Charles E. Wilson in giving the military complete control of aircraft production and procurement. ttempt to judge wisdom of the move; they are merely surpris Wilson, a civilian, gave in after such a brief struggle. Actus organization chart looks the same as before, with Wilson at the to organization chart looks the same as before, with wuson at the ton in the test of day by day operation it is T. P. Wright's ARCO which the show, and ARCO is the Army and Navy.

Meanwhile, only about 20 aircraft men remain at WPB, and they have their duties stripped away. This group consists of the stripped away.

tinue to have their duties stripped away. This group consists project servicing, project rating, and priorities branches. However only priorities handled are in the administration of General Limit only priorities handled are in the administration of General Lim Order L-262 (which controls sale, rental and disposal of aircraft of 5 or less) and "distribution of commercial aircraft priorities not under diction of the Army or Navy." of which there are approximately no Aircraft manufacturers, it is pointed out, must take their troub T. P. Wright, who represents the services. The only individual rem in civilian WPB is Wilson himself, a difficult man to see. No one

WPB, or any other civilian agency, has a complete picture of aircraft duction. Representatives of the various branches and industry dividencement with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with materials or parts used in aircraft manufacture of the concerned with the concerned w have an adequate grasp of conditions and could not make dec they had.
Withdrawal, at least temporarily, from WPB of the Army Air P

only liaison man, who has contacted Army-Navy Munitions Board, and AAF, is seen as some proof of Wilson's move relinquishing authors. according to officials.

according to officials.

Simultaneously it is learned that all civilian dollar-a-year produce experts brought to WPB to guide and advise in production matter aviation were ordered to leave, probably by the new executive and for Wilson, Lt. Col. E. E. Jeffe, who is "cleaning up" WPB with the sistance of M. J. Deutch, a Belgian who came to this country in and is now seeking U. S. citizenship. Deutch functions under Vice Change Ralph J. Cordiner as Chief of Integration and Scheduling Brand the Facilities Bureau.

Among the remaining few dollar-a-year production executives services were to terminate April 10 were Arthur Gardner, Ward Jack and J. W. Shippmann. Bruce Leighton accepted a commission as cap in the Navy on April 1. Status of Millard Bowlus, acting chief of Project Rating Branch, is indefinite, while A. C. Rankin joined Australian War Procurement agency April 5.

Consolidated-Vultee Helicopter: West Coast rumon re Consolidated-Vultee is extremely interested in the future of the helico and at least one aviation columnist has gone so far as to report a m is already completed. Well known Bill Stout, who joined Consolidate research department some months ago, is linked with helicopter sin along with all of the other reports of Consair-Vultee post-war production as the proposed low-priced motor cars.

Institute Angles for ACCA Department: Institute of Aeronautical Sciences continues to seek support in a move to obtain technical and standards activities of Aeronautical Chamber of Com A leader in the proposal has been Glenn Martin. Most of the major panies, however, seem convinced that the technical work should n in the Chamber and the proposal at this writing appears no nearer than it was during the Chamber's stormy days several months ago.

Army to Lose More Planes? Washington observers are vinced that a new fight is brewing between Army and Navy air office the number of new planes each service can receive this year. in last-ditch disputes, the Navy is expected to seek and win the su of the White House, and thus obtain still more planes which originally ordered by the Army. Army flyers still emit unprintable mentaries as they see the growing parade of B-24s, B-25s, and Army-designed and Army-ordered craft soar overhead in Navy Need of the Navy for the ships is not questioned, but the proud a men who see their own AAF fighting on almost a dozen fronts feel merely because they ordered more planes earlier they shouldn't be pe ized for the tardy Navy.

CAP Losing Thousands of Planes: The Civil Air Patrol lost literally thousands of planes in the weeks which have followed ance of the limitation order on lightplanes. Ships which are in active duty classification are still protected from requisitioning and at least theoretically eligible for priorities on repair parts. But those the Class B division, not earmarked for regular coastal patrol, induscourier service, or certain essential cargo flights, are wide open to set for the War Training Service. Meanwhile, CAP officers still expect executive order from the White House almost daily, putting the Printo the Army. Just released is information that CAP is patrolling entire coast from Tampico. Mexico. to Canada. It has lost 62 plane entire coast from Tampico, Mexico, to Canada. It has lost 62 planses and 20 men have been killed, 86 injured. So far CAP has flown 16,000,000 miles over water and the average age of its coastal patrol ! is, to the horror of the Army, 37.7 years.

ROBERT H. WOOD.





(Continued from page 1)

be only a stage in more extensive plans to South America. On the manufacturing front the industry is managing to find a few moments from production to explore means of utilizing the huge new war plants for profitable production after the war without waiting for the government to lead the way.

This evidence of industrial leadership and action is encouraging at a time when government has encroached upon almost every phase of social and economic life. For government may be expected to expand its activities into every field of endeavor not staked out or claimed by private enterprise. If we are to see aviation become the really vast factor it would appear to be destined to be in the post war, private enterprise must do the job. Certainly private enterprise has buckled down to accomplish the extraordinary production job of the current war and it stands to reason that private enterprise is capable of performing every expansion job when the war closes.

Mr. Damon was correct to the last letter of the last word when he assailed the lack of understanding of aviation in high places in Washington. This country has never had a strong forward policy for aviation and today we are paying heavily for our tardy recognition of the airplane's importance. But this recognition, as he points out, must not be allowed to lag when the war is over. Perhaps just as important as the necessity to eliminate bungling bureaucracy is the need for strong industrial leadership and strong industrial planning by private enterprise. To wait for government to take the initiative is too late. That is why it is good in these spring days to see private enterprise begin to speak up. There needs to be more of the same.

Shackles in Canada?

W HILE it may be presumptuous for a U. S. publication to take issue with the policies of a foreign government, we nonetheless raised our eyebrows with considerable misgivings at Prime Minister W. L. Mackenzie King's statement to the Canadian House of Commons on April 2.

The Prime Minister made two very positive statements that seemed to leave no alternative whatever as far as his government is concerned. "Trans-Canada Air Lines will continue to be the instrument of the government in maintaining all transcontinental air transport services and in operating services across international boundary lines and outside Canada," he said. "Competition between air services over the same route will not be permitted whether between a publicly-owned service and a privately-owned service or between two privately-owned services." Then as if to emphasize to the point of extreme clarity, he said: "The Government sees no good reason for changing its policy that Trans-Canada Air Lines is the sole Canadian agency which may operate international air services."

Is this wise, for Canada to put all of its eggs, to use a timeworn expression, in one basket? Would Canadian commercial aviation have reached its present efficient point of development had not there been competitive private air transportation in the United States? And is Canadian Pacific Railway, which maintained the world's largest travel and transportation system before the war, to be prohibited from flying airplanes over its former sea routes?

We have the highest regard for Trans-Canada Air Lines, the government-owned system which is part of Canadian National Railway, and this airline should certainly have a place in the world air picture. But we also have been impressed by the alert, intelligent and progressive leadership in Canadian Pacific Air Lines, whose parent is the Canadian Pacific Railway. Why should not Canada have two aerial instruments in the world transport field, not one, when postwar expansion begins?

Perhaps we are butting into affairs of another country about

which we admittedly know very little, but it seems to us the Mr. Mackenzie King's statement is not a healthy one is aviation's future in the north. The idea of monopoly might become very catching elsewhere, especially in the minds those who have no knowledge of aviation or what it means Canada's fine aviation today is the product of private enterpriand initiative, largely inspired in this country. TCA, in factowes its great organization to a man who played a major pain the building up of the U. S. competitive air transport industry. Why in the dawning of the great air age should aviation is shackled by anyone, anywhere?

A National Council

A S THIS issue goes to press the boards of directors of east and west coast Aircraft War Production Councils we meeting in Los Angeles to complete the formation of a nation aircraft council. It was just a year ago that eight Southe California airframe manufacturers joined together to form war council for the mutual exchange of information, material data and otherwise to aid one another in meeting production requirements. The first year of the west coast council has been a fruitful one. A national council would seem to have a usef purpose if it has the close cooperation of the major executive and especially if the Aeronautical Chamber of Commerce is in cluded as a member or affiliate. From our observation post th existence of the two councils has in no way eclipsed the in dividualities of the companies or personalities involved. On the credit side has been some sound thinking and action of benefit to the entire industry on such subjects as absenteeism in wa plants. Pulling together on major production problems cam help but have a beneficial effect.

Missing Link

COMMENTING on a recent editorial protesting against the tipping evil at airports and airline terminals, a member of the Civil Aeronautics Board has helpfully pointed out that is addition to no-tipping baggage service the airlines should see to it that Drive-Urself automobile service be made available at all airports after the war. Like the tipping problem, this additional service must wait until peacetime rolls around again, but it is worth thinking about right now.

It is not a new idea, of course, and was actually in effect a certain cities of the country a few years ago, but in the postwa era it might be a wise idea for the airlines to act jointly to sponsor a nation-wide automobile service on a somewhat unifom per-mile basis. It is very convenient for an airline passenger to step into his own (temporarily) automobile at his destination and the idea can become very popular and widely used if the project is well advertised and available at reasonable rates.

A Ford Invention?

W HOEVER wrote the copy for a recent Ford Motor Company advertisement appearing in newspapers had a vivid imagination about troop-carrying gliders. The ad pictured the various war products Ford is now making, including gliders. Under glider picture appeared the following caption: "No gas ration card is needed with this one. Paratroop trainees with a tankful of 'tailwind' will roll up records of economy that laugh at fue and oil costs."

Maybe Ford, who has already set such noteworthy records of delayed performance in bomber production, has invented a new method of hauling paratroopers in gliders. Maybe huge seagull pull the gliders through the skies, or maybe the pilot of the towing plane just thinks he has gas in his tanks. Ah, well, this automobile industry!

WAYNE W. PARRISH.

-American Aviation for April 15, 1943

Look on Motor Trucks

as Ground Crews



White truck fueling a DC-3, one of American's "Flagship Fleet"

SINCE LONG BEFORE THE WAR... White trucks have provided a score of essential 'ground crew' services.. building and maintaining airports... refueling, provisioning and air-conditioning planes... clearing runways of snow and ice... delivering mail and express.

IN THE POST-WAR WORLD... the mutual inter-dependence of air and highway transportation is bound to be greatly increased—especially by an expansion of air express and freight volume. Whatever form air cargo takes... dependable, time-saving ground transportation must be an essential part of it.

White can offer the experience of more than 40

years in transportation on the ground to help you in that phase of your thinking about post-war plans. Interesting cost estimates and time study figures are available. Write for these or any information regarding your particular present or proposed operation.

THE WHITE MOTOR COMPANY . CLEVELAND

Builders of U. S. Army Tank Destroyers, Scout Cars, Half-Tracs, Prime Movers and Cargo Trucks, the complete line of Super Power Trucks and Tractors, City and Inter-City Coaches, Safety School Busses and the Famous White Horse.



FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS



Alert Aides to Busy Airmen

DURING FAST COMBAT, long patrols, and in reconnaissance flights, a pilot's eyes must be everywhere at once. "PIONEER" Warning Units are a major help under such circumstances.

These precision-built instruments watch fuel pressure, oil pressure and vacuum value. When pressure or vacuum reaches a pre-determined low point, a light flashes, attracts the flyer, and thus enables him to take steps to avert trouble.

In common with hundreds of other flight, engine, and navigation aircraft instruments, "PIONEER" Warning Units are being precision-built in ever-increasing quantities as accurate aides to heroic airmen of the United Nations' forces.



"PIONEER" Warning Units are vital members of "The Invisible Crew" — precision equipment which 25 Bendix plants from coast to coast are speeding to our fighting crews on every front.



PIONEER INSTRUMENT DIVISION

CURTISS A 25

New U.S. Story Dire Beinber makes it's Debut!

THE powerful new Curtiss A-25, embodying the latest design features for divebombing tactics, is also equipped with the Curtiss Electric Propeller.

CURTISS ELECTRIC PROPELLERS



and different plants blossoming over southern landscapes . . . INDUSTRIAL PLANTS!

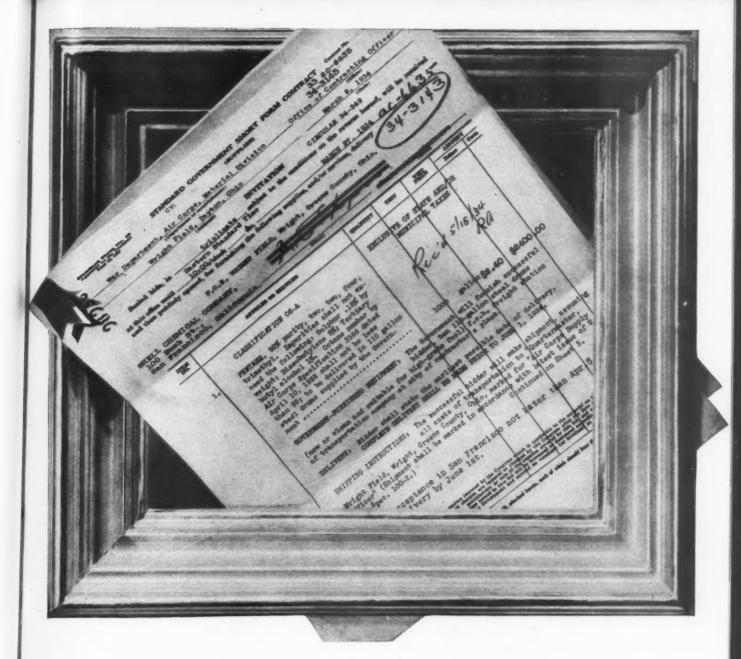
The thunderous roar of machines contrasts sharply with the soft voices from plantation fields. A New South has come into its own and takes its place along the nation's production front.

Delta, serving the South through 18 years, has caught the spirit of these changes taking place. Delta plans her efforts today to fit the needs of a new industrial South . . . a marching South!





INDUSTRIAL SOUTH



"YOU OUGHT TO FRAME IT"

IN RESPONSE to the above historic order for fuel "not less than 95-octane," Shell's Research Laboratories did the "impossible"—supplied the U. S. Army Air Corps with 1,000 gals. of Iso-octane, to make the first 100-octane aviation fuel ever produced in a commercial quantity. Fuel that has given our air arm added punch, extra reach.

Although the quantity of 100-octane fuel turned out by all American refiners has been greatly

multiplied since Pearl Harbor, Shell is maintaining its former position in the total production.

In fact, the majority of the country's leading plane and engine manufacturers are using Shell Aviation Fuels. Preference for Shell Aviation Products prevails among many aviation training schools, transport lines and airports.

Farsighted airport operators will find Shell's wartime popularity a profitable peacetime asset.

AVIATION FUELS



AEROSHELL OILS



Citizens of the Coming Hage of Flight

Today there is a war to be won. And out of this struggle must come a world that holds no reins on opportunity. The airplane will be a vital part of that world, in the coming Age of Flight.

All over the country, millions of children are preparing themselves for the Age of Flight.

They're learning how planes rise into the air and fly. They are studying a kind of geography grown-ups never knew... that the shortest way to go from Chicago to Calcutta, from San Francisco to Shanghai, from New York to Moscow is north—not east or west.

They are as receptive to the airplane as you were to the automobile. They have no more inhibitions about flying than you have about riding in

a car. Aviation is one of the things their every-day life is made of.

Grown-ups, too, will be citizens of the Age of Flight, for it is not some dim, imaginary era in the far-off future. It will begin as soon as this war is won! You will be one of its citizens.

Except for short distances, you will probably do all your traveling by air. A great share of the mail and express will be carried by air. Goods and products from remote parts of the world will come to you by air.

Already, in the name of Victory, United Mainliners are helping to blaze new world-wide routes on military missions, and are maintaining scheduled passenger, mail, and express service over domestic routes as well.

United now has an unrivaled 250,000,000 miles of flying experience to contribute to the cause of Victory. When that goal has been reached, this same experience will help bring about the realization of the Age of Flight.

* Buy War Bonds and Stamps for Victory *

UNITED AIR LINES

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quired to

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AB Plans For Postwar Feeder Lines

Ill Investigate ll Phases of eeders, Pickup

By ERIC BRAMLEY

AYING the groundwork for vast postwar expansion of e U. S. air transportation stem, the Civil Aeronautics ard announced Mar. 30 that will institute an investigation determine the extent to hich "local-feeder-pickup" air rvices can be extended to aller communities.

Prior to entry of the U. S. into orld War II, both pickup and eder applications piled up on the pard's docket without any action ing taken. After Pearl Harbor, any observers felt that feeders ere doomed to stay lost in the ere doomed to surjuste for the duration.

Action of the Board in starting e investigation is looked upon as encouraging sign by the indus-y, which has long felt that feedpresent a problem worthy of arate consideration.

Total 61,737 Miles

A survey by American Aviation solved that there are now pend-g before the Board applications 61,737 miles of feeder and pick-

Although CAB is reluctant to e exactly what is meant by ender," Board officials say that general a feeder route is operwith small equipment, has stops, serves smaller com-ies, and derives much reveny stops, e from local business.)

Specifically, the Board said that is entering upon an investiga-in into and concerning "(a) the air of extending rtation to communities and lo-lities throughout continental throughout ted States to which such transrtation may not appear war-nted under usual economic conerations or under existing odards of operation, and (b) the relination of any such transation presently authorized, or be authorized, under considerations and existing indards . . .

The investigation will include quiry into the following:

. The extent to which there may general need for such extension. 2. The type or types of opera-in best adapted to the performe of the transportation service red to furnish such extension. 3. The facilities (airports, air-

Feeder-Pickup Summary

The following applications have been filed by air mail pickup Proposed Cities to Estimated

Company	Routes	be Served	Mileage
Aero Pick-Up Service	3	25	813
All American Aviation		ons 62	1.374
Automatic Air Mail		282	6,867
Century Aviation Co		86	1,547
Des Moines Flying Service		114	3,207
Mercury Development Corp		422	7,440
Mid-Continent Airlines	9	141	3,954
Page Airways	2	97	****
Rebel Air Freight	3	52	1,054
Southern Aviation Corp		92	1,998
Southwest Airways		299	2,905
Southwest Feeder Airlines		246	5,641
United Air Lines		315	3,000
West Coast Airlines		143	2,182
Western Air Lines		303	3,014
The following applications ha	ve been	filed by fee	eder companies:
Essair	4	16	2,741
Hannaford Aircraft	1	6	474
Mayflower Airlines		2	108
Midwest Airways		13	785
Oregon Airways		10	520
Southwest Feeder Airlines		64	4,284
TWA-New England	5	25	700
Western Air Lines		80	5,874
Wichita Falls Air Transport	1	8	302

ways, aircraft, etc.) best adapted to the type or types of operation which appear most desirable or feasible.

Wiggins Airways

Ray Wilson Inc.

4. The extent to which such facilities are or may become available.

5. The conditions which generally should be regarded as sufficient to justify the authorization of such operations.

6. The extent to which such operations should be grouped or classified separately from other operations.

7. The extent to which carriers conducting such operations should be grouped or classified separately from other carriers.

8. What if any basis or bases exist, and appear appropriate or war-ranted, for general application in classifying operations or carriers. 9. The extent to which such op-erations should be subjected to re-

strictions to prevent uneconomic operations, uneconomic competition, or excessive cost to the gov-ernment, and the nature of any such restrictions.

10. Problems relating to the co-

ordination of any different types

or classes of operations.

11. The extent to which existing requirements of law or regulation, or their application to such operations, can or should be modi-

"Through its order instituting the investigation of local air service, the Board expects to give to lead-ers in the field of American aeronautics an opportunity to contribute their accumulative experience so that it may be utilized in planning for local air service development, the Board's announcement said.

Public Hearing

"The entire aviation industry, the Administrator of Civil Aeronautics, the Post Office Dept., all state aviation bodies, all domestic air carriers, all applicants for domestic air transportation certificates, aircraft manufacturers, trade cates, aircraft manufacturers, trade associations, and airport managers have been notified of the Board's investigation and will have the opportunity to attend a public hearing to be held at a future date before an examiner of the Board."

CAB records show that there are records show that there are now applications on file from 15 pickup applicants. These applicants propose 102 routes serving 2,689 cities, covering 44,996 miles. Eliminating duplications from the 2,689 cities leaves 1,453.

Eleven lines are seeking what may be called feeder routes, as that term is loosely defined. They propose 38 routes serving approximately 245 communities, covering 16,771 miles. How many of the 240 communities would represent "new" stops, with duplications eliminated, has not been determined.

'Backyard' Lines

Feeling within the CAB is that now is the time for the investiga-tion. Despite big talk about globecircling operations by U. S. air-lines, some CAB officials point out that hundreds of thousands of trained flyers will be coming home from the war with the urge to start a small airline "in their own backyard."

Unless the Board explores the subject, it will be unprepared when the clamor for expansion hits its peak, and will lay itself wide open for justified criticism, these officials assert.

Probably among recent develop Probably among recent developments to be included in the CAB investigation will be the Sikorsky helicopter, which has been advanced as a "natural" for certain feeder line operations. Northeast Airlines has proposed extensive feeder operations in New England with helicopters (see story elsewhere). where).

Northeast Asks Helicopter Mail Service in New England

Airport-to-post office, airport-to railroad station and post office-to-railroad station air service for mail and property, including first class mail, has been proposed for New England and New York by Northeast Airlines.

The company has told the Civil Aeronautics Board that it intends to use helicopters in the operation, the first of its kind proposed by a domestic airline (Eastern Air Lines airport-post office flights in Phila-

delphia a few years ago were conducted with autogiros.)

Northeast filed the application only two weeks after informing the Board that it is seeking routes to London, Moscow, Paris and other

European points.

The company listed 298 first and second class post offices in New England and New York which would

be served.
"Applicant proposes," it said, "to (Turn to page 52)

merican Aviation for April 15, 1943-

BEW Air Transport Unit Credited With Keeping War Plants Going

A IR-BORNE imports of critical materials, tapping scarce supplies available only in remote regions, are keeping hundreds of American war plants running and are developing a pattern of American air commerce reaching into nearly every quarter of the world, according to informa-tion made available this week to American Aviation.

This is the accomplishment of one of the smallest of the war organizations—the International Air Trans-port Division of the Board of Eco-nomic Warfare—which in the past nine months has quietly built up its record behind the more spectacular scenes of global warfare.

So thoroughly has it reached into far-flung areas that its present value in keeping industrial wheels turning on the war front at home may eventually be overshadowed by its significance in providing a blue-print and a dossier, which cannot be duplicated elsewhere, on postwar air trade.

The International Air Transport Division began functioning in mid-summer of 1942 in response to a crying need of the war effort for critical materials, particularly cer-tain ores and chemicals which were at the point of disappearance.

Within a few months it was delivering into the U.S. a trickle of tungsten, first moved out of China India; platinum from the Persian to india; platinum from the Persian gulf area; mica from India and Brazil; crude rubber from Africa and South America; silk, tin, tantalum, quartz crystals, industrial diamonds, various ores and even plants and seeds vital to the war effort

Imports Doubled

BEW shrouds its figures, and even the names of many of the air-ferried products, in military secrecy. But it did reveal this week that since last October these imports have doubled—and probably will be up 400% by next fall.

Last summer BEW learned that space was available in returning planes of the Army Air Transport Command and the Naval Air Transport Service, and set out to fill that space with the articles most despersibly readed in the way effort.

space with the articles most desperately needed in the war effort.

The International Air Transport Division was organized under the leadership of Philip W. Amram, former Philadelphian who at that time was a member of the solicitor's staff in BEW. With the Office of Economic Warfare Analysis he lead the groundwork by finding out laid the groundwork by finding out first what materials were susceptible to air transport and where they could be obtained, and worked out priorities with the War Production Board. The cooperation of half a dozen other government agencies

was obtained, and an international network was gradually pushed out to supply points-no matter how remote.

One of the most remarkable facts is that the International Air Transport Division has accomplished its job with a staff of only 27 men in Washington, and even fewer in the field. Some additions to personnel are now being made and by July 1 there will be a total of only 20 men in the field to procure and route the supplies, according to present plans.

Brinckerhoff Named

Last fortnight Amram left on a special mission, described only as "out of the country," and William W. Brinckerhoff became acting chief of the division, a few weeks after he had accepted appointment as assistant chief. Brinckerhoff, widely known in aviation circles, is on leave from Brown-Crosby & Co., Inc., New York, where he has had charge of the aviation division of the insurance brokerage firm. This type of assignment was not new to him since he has been for some time a director, secretary-treasurer time a director, secretary-treasurer and head of the executive committee of the Inter-American Escadrille flying under auspices of the Office of Coordinator of Inter-American Affairs.

In taking over the reins, Brinckan taking over the reins, Brinck-erhoff gave an airman's unqualified endorsement to "the magnificent job being done by the Air Transport Command and the Naval Air Transport Service.

Supplies have been brought in from all of South America, except Argentina, all of Africa, India, Argentina, all of Africa, India, China, the Middle East and England in the steadily expanding program. So far as quantity is concerned,

BEW's air-borne imports are a relatively small proportion of the total imports coming into the U.S. But the records show that a number of factories producing war goods would have been forced to shut down had they not received the quantities of critical materials brought in by air. The consequent lag in vital produchave set back the U. S. time-table to an inestimable

Aside from being the quickest transport method, air ferrying in many cases has been the only means of bringing out materials from re-mote regions. In addition, it has provided the means of countering enemy espionage in many notable instances, which cannot now be described.

Particularly in the Orient, BEW has built up large stockpiles of critical materials which are await-ing space on returning planes, but at the same time is maintaining a steady stream of shipments.

Censorship is now applied to information about most of the ma-terials handled, but the variety and terials handled, but the variety and ingenuity of the International Air Transport Division's operations are illustrated by one example. Cuttings of the Derris plant were flown in quantity from Puerto Rico to Costa Rica and other tropical countries where the plant will grow rapidly. There the plants are grown and harvested and made into an insecticide urgently needed in many vegetable producing areas of the U.S. From them a chemical product also is made which is much used by the Army as a delousing agent for its troops abroad.

Overcome Subs

Shipments of one vital mineral on which one phase of the anti-sub-marine campaign hinged were torpedoed repeatedly, but airplane shipments routed by BEW have overcome that problem.

Other agencies, and even some Other agencies, and even some foreign governments, are beginning to depend on facilities of the International Air Transport Division for help outside the U. S. Frequently, through its smoothly operating facilities, the Division arranges space and itineraries for official personnel manifest between foreign petions.

moving between foreign nations.

Its operations are directed from

Transport Record More than 12,000,000 lbs equipment were transported from Port Moresby to Uni New Guinea battle areas planes of the U. S. AAF To Carrier Command during period of two months, according to War Dept.

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a small space in a temporary had ing at 14th Street and Constitution cations clear through the State and are given top priority. It vides its functions into two fie mits to Analysis section, whose Analysis section, whose purpos Villiam to keep a finger on U. S. need frector critical materials at all times he new he new to know at what spot in the withose materials can be obtained air transport; and the Operation whose job is to get the erence A few ress co lenied th terials from their source to a plenied the where they can be loaded nade but

BEW officials told American in teady bee tion that in these undertakings the tion that in these undertakings the time have the full cooperation of Stilled.

Metals Reserve Co., Defense St. (American Corp., War Production Bas of the N Commodity Credit Corp., Army sat a 19 Navy, and other agencies.

Established in '41

The Board of Economic War 93 wou was established by the Presidence in viginally in July, 1941, as Economic Defense Board for purpose of developing and coordinating policies, plans and prograting the designed to protect and streng been on the international economic remater quions of the U. S. in the interest of the international defense." The name changed 10 days after Pearl Hat BEW's board of directors are Secretaries of State, Treasury, Navy, Agriculture, and Comme and the attorney general, the ordinator of Inter-American Affine Period Control of the Period Control of the part record will play in postwar transport, BEW officials will not cuss plans for the postwar era mountagety, a hint of the part manufacture.

transport, BEW officials will not cuss plans for the postwar en.
However, a hint of the part organization may play is contained in an official directive which "It (the International Air Tras Division) will furnish, either its own initiative or upon rest to the Office of Economic War Analysis, all the strategic study other information relating to matters of air transport nature. other information relating matters of air transport naturelate to all phases of economic fare, including re-occupation reconstruction, together with reports and recommendation would fall within this cates

Promises Peacetime Air C

The new aviation extension of the Naval Academy at Annumber which will include an indoction which will include an indocume course at Jacksonville, Fla, & graduates, is not merely a wa measure, but will be continued the armistice, Vice Admiral In-ick J. Horne, Vice Chief of M Operations, reports.



Cooperates with BEW: This Air Transport Command C-54 is loading for a trip to 'somewhere.' On its return flight it will probably carry vital materials for BEW.

Knudsen Reveals Cut in 1943 Goal Cassady Succeeds transport to Unit To 90,000 as March Output Soars Training Director

uring CARCELY 24 hours after accome American Aviation Daily orary begin in the 1943 aircraft observed to figure of 108,000 with two figures william S. Knudsen, War Dept. S. needs frector of production, verified times. he new goal in a press con-erence in Chicago Mar. 31.

A tew days later in a Washington ress conference Donald Nelson enied that a reduction would be nade but observers pointed out that by that time the first cut had aleady been decreed and that it was unie true that no more were scheduled. to a p

Operati

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Trans

y that time the first cut had alerican heady been decreed and that it was
takings the true that no more were schedon of Siled.

(American Aviation in its Trend
tition Bof the News column Jan. 1 foretast a 1943 output of about 85,000
cies.

Previously WPB Chairman Nelson
had made the statement several
imes that aircraft production for
hic War
1943 would double the 48,000 proeviced in 1942, bringing the total
and of for
urther stated that the program was
and con urtimes greater in weight, indiand program that heavy bombers have
streng oven ordered in comparatively
omic remater quantities than other types strengt been of omic re meater of craft. r quantities than other types

Over 6,000

Meanwhile, March output prob-ally jumped to more than 6,000 asury, ally jumped to another common planes, setting a new high for any all, the month—exceeding December's 5,500, can Aft Jumary's 5,000 plus, and February's 5,000.

Period Goal reduction was necessitated the searcity of certain basic

o Perkin Goal reduction was necessitated by the scarcity of certain basic vast in trical materials, such as some types i infom of aluminum, aluminum extrusions, do that and irregular flow of components resulting from complex problems in scheduling. It has also been contended in many places that paper are real eractions of the components work has increased greatly for some transition from PRP to CMP, although WPB officials deny this. manufacturers during the current ransition from PRP to CMP, al-bough WPB officials deny this.

Diminished goals will call for a revision of the types of craft now on order. Foreign sources divulge that Lend-Lease shipments of planes

on require war studies ing to mature

will be revised downward from early estimates, as well as deliveries to the U. S. services.

Although the general public takes for granted the top priority rating of aircraft in the materials picture, this situation does not apply in many cases, and some plane types are in even third and fourth priority categories.

NATS Squadrons Organized

Two Naval Air Transport Service squadrons were commissioned in Miami April 3 under Lt. Comdr. S. W. Hopkins, heading a landplane group, and Lt. Comdr. H. R. Canaday, directing a seaplane unit. The squadrons will operate over the Caribbean and into South America.

Radford as Navy

Capt. Arthur W. Radford, U. S. I., Director of Training for the N., Director of Training for the Navy's Bureau of Aeronautics, has been assigned to active sea duty and replaced by Capt. John H. Cassady, U. S. N., formerly chief of staff for the Naval Air Operational Training Command. Captain Cassady assumed his new duties in Washington lost week

Cassady assumed his new duties in Washington last week.
During the 16 months Captain Radford was in charge, Naval aviation training personnel and facili-

ties underwent the greatest de-velopment in Navy history. Each of several of the Navy's enlarged technical training schools enlarged technical training schools for enlisted aviation ratings have more students today than the combined capacity of all such schools before Pearl Harbor. Service pilots have tripled, student pilots under training have doubled again and again and lighter-than-air pilots have increased tenfold.

have increased tenfold.

In order to train his men in all phases of warfare, Capt. Radford opened the pre-flight schools, designed to make cadets tougher and stronger than the enemy. Later, flight prep schools were set up to provide special instruction in selected ground school subjects at colleges under the Navy's supervision. Facilities, instructors and planes of CAA's War Training Service were used. According to testimony on Capitol Hill, the Navy recognized the service rendered by recognized the service rendered by WTS in elementary training long before the Army.

Aviation's Biggest Problems Will Be Solved, Breech Says

Pessimists to the contrary, the greatest problems of aviation today will be solved, and probably sooner than the public believes, Ernest R. Breech, president of Bendix Aviation Corp., said Mar. 30.

"I think I am safe in saying that if man longs for something with sufficient zeal, in this day and age, our engineers and scientists will do something about it," he told the Illinois Manufacturers' Costs the Illinois Manufactur Association, in Chicago.

"In the case of Bendix, over 30% of our half billion dollar production in 1942 was in instruments and devices that were not out of the engineering departments in 1938, and many of them not even on paper in our engineering departments at that time." ments at that time.

'Sensational Results'

Referring to combat planes now "in the mill," Mr. Breech promised "sensational results will soon be seen in the headlines of our papers "devalorments". from our newer developments.

After the war, low-priced, safe planes will permit mass sales, with thousands of persons enjoying flights from which the element of human error will be almost wholly removed, the official forecast, "and I predict that this will come within an amazingly short period of years."

With thousands of new airports With thousands of new airports already constructed, plus hundreds of others to be added each year, "there is hardly a village or hamlet that will not insist upon having some type of commercial airplane service," and "you will be able to get airline service to almost any community to which you desire to go within a short time after the war . . . And one does not have to stretch his imagination to visualize the flights to foreign counalize the flights to foreign coun-tries that will be established, not only as daily services but without doubt as frequently as existing schedules between New York, Chicago and California."

Mentioning a "startling develop-ment during this war," the speaker reported that hazards of blind flying, day or night, have been con-quered. "These developments are so broad in the scope of their application for military purposes that I cannot hint how this has been accomplished . . But I can give you positive assurance that after the war fog, even at night, will join the long list of weather hazards conversed by more in his deards conquered by man in his desire to fly."

Taking up the popular query as to what will happen to many air-craft and accessory firms—and their employes—when they revert to employes—when they revert to pre-war production volumes, Mr. Breech expressed the belief that many employes will return to former industries in which they were employed, such as motor cars, bousehold empliances, and other household appliances, and other civilian goods.

"Many girls and housewives wi'll be happy to return to their homes at the end of the war. In fact. I have been recently informed that in England the agreements between the unions and industries provide that those women who were not applicated in industries to the employed in industry prior to the war will be taken out of industry immediately upon the return of the

Sees Big Market

"I do not predict that the private airplane industry will ever equal in volume of units that of the automobie industry. It has been said that the airpane is the most said that the airpane is the most efficient transportation vehicle that man has ever built. I do not predict that it will ever have the complete utility of the automobile, but I do believe that we will in a very few years see an annual mar-ket for private airplanes that will be an important factor in our econ-

omy.
"Much has been predicted as to the future of air freight. I have spent many years in the air transspent many years in the air transport business. I am quite familiar with the cost per ton mile of transporting goods by air. I do foresee a tremendous expansion in the use of airplanes as cargo carriers, but I do not share the same views as those few who are predicting that airplanes will completely replace trucks, freight cars, or even express trains, let alone or even express trains, let alone ships at sea, when it comes to carry-ing low-cost goods in great bulk."

Increased Hours

In spite of the pressure for pilots caused by wartime demands the Director of Training increased flight instruction hours to 350 to 400 hours, including 100 in service type

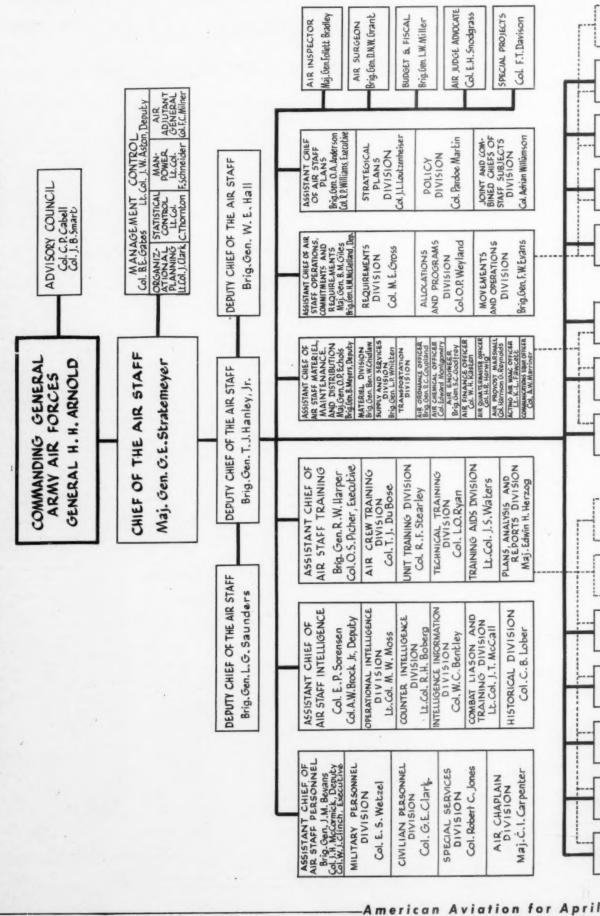
War experience and technical improvements were reflected in new sections and new schools. Courses in recognition, photographic interpretation, air intelligence, fighter director and advanced radio were among those set up. Estab-lishment of Naval Air Functional Training Commands concentrated Training Commands concentrated responsibility for specific types of training and standardized training methods. Another "first" for the Navy was the qualification of women for certain aviation ratings— link trainer instructors and control tower and synthetic training device operators.



'The Big Storm'

ORGANIZATION OF THE ARMY AIR FORCES -

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11th, 12th.

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"3. Dele lity to i "4. Red eadquar To illu fice of taff, M

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COMMAND CONTROL FLIGHT

5th, 6th, 7th, 8th, 9th, 10th

SCHOOL OF APPLIED TACTICS

> SUBMARINE COMMAND Brig. Gen.

COMMAND GROUND

COMMAND SERVICE AIR

COMMAND MATERIEL

TRANSPORT COMMAND AIR

FOURTH AIR

FORCE THIRD

AIR

SECOND AIR

CARRIER TROOP

ECHNICAL TRAINING

RAINING DMMAND FLYING

Brig.Den.

Brig. Gen.

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PROVING

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Revised Air Forces Establishes Six Assistant Chiefs of Staff

By MARY PAULINE PERRY

Reorganization of the Army Air Reorganization of the Army Air rees, effective March 29, eliminated unlicating branches and estab-ated six powerful Assistant Chiefs Air Staff who direct and control civities of the Air Forces. Comands have been combined and e classic A-1, A-2, A-3, A-4 units we been abolished, although they mization

ranization.
Commanding General H. H. Arold retained Maj. Gen. George E.
tratemeyer as Chief of Air Staff
al gave Stratemeyer the aid of
tree Deputy Chiefs. There is a
trong rumor in Washington that
t Gen. George Brett may be
rought to Headquarters from his
ost in the Caribbean to be Chief
Air Staff for combat units. There
been no official confirmation. been no official confirmation.
The new chart on the opposite
are shows the combination of the visions under each Assistant led into Branches and then Sec-As forecast in American



ion April 1, the formerly powful Directorates have been aboled as policy planning and liaison ween the field commands and

Results of the realignment ac ding to the official War Departannouncement will be:

"I. Headquarters, Army Air occs, relieved of the details of secution, left free to determine

ver-all policy.

2 Creation of a more cohesive anization within these Head-

3. Delegation of greater responsity to field commanders.

4. Reduction in personnel of dquarters staffs in Washington. illustrate the changes, the of the Assistant Chief of Air Materiel, Maintanance



Sorenson

A-derson



port Command.







Distribution, may be used. Duties of the six major components, reduced from the former nineteen

components, are similar.

Maj. Gen. Oliver P. Echols was commanding General, Materiel Command before the reorganization. Under the new formation Gen. Echols becomes Assistant Chief of Staff, Materiel, Maintenance and Distribution, with Brig. Gen. Bennett E. Meyers as his Deputy. Gen. Echols' office supervises ac-Gen. Echols' office supervises ac-tivities of Materiel Command, Air Service Command and Air Trans-

Under this office are three major Under this office are Divisions broken down by duties Reanches. Materiel Division oversees Development Engineering Branch: Resources Branch—Materiels, Manpower, and Machine Tools (Aircraft Resources Control Office); Resources Branch— Facilities; Production Branch; and Procurement Branch.

Headquarters of the Materiel Command have been moved from Washington to Wright Field, Day-ton, where the Aircraft Scheduling Unit is also located. Brig. Gen. Charles E. Branshaw, formerly Supervisor, Western Procurement District, Materiel Command, be-comes commanding general. He is being replaced on the West Coast



Echols

Harper

Colonel Donald F. Stace, who

has been Acting Supervisor.

The Supply and Service Division controls the Construction Branch, Supply and Maintenance Branch, and Organization and Training Branch. This group operates with the Air Service Commend at Par Branch. This group operates with the Air Service Command at Pat-terson Field, Davton. The Chief of the Transport Divi-

sion has not been selected, but he will be charged with the Traffic Branch, Air Transport Branch, and Priorities Branch. Close liaison is Priorities Branch. Close liaison is maintained with Maj. Gen. Harold L. George's Air Transport ComA group of service advisers also assist Gen. Echols in the discharge

Additional Assistant Chiefs of Air Staff function under the titles: Personnel; Intelligence; Training; Operations, Commitments and Requirements, and Plans.

According to the reorganizational chart, the 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, and 14th Air Forces, all combat units, are under the direct supervision of the com-manding general, and under the Assistant Chief of Air Staff for Operations, Commitments and Requirements, Maj. Gen. B. H. Giles.

Gen. Arnold has stressed that the Headquarters staff is a policy forming group with general supervisory powers. The staff functions do not extend to telling field commanders how to accomplish their missions.

This should result in more efficiency in the field.

The reorganization continues to

inspire rumors throughout the AAF. One that gains some attention among officers is that Gen. Arnold will be given specific charge of the theaters of operations where Air Forces are fighting and that another AAF consol will be beautiful to the consol will be be a consol will be be a consol will be be a consol will b AAF general will be brought in to run Headquarters. This would give Arnold power to establish and carry out fighting plans, which he has ordered Headquarters to "keep hands off."

Navy Manufacturers Meet to Plan Program

Representatives of the Navy Bu-reau of Aeronautics met with offi-cials of all Navy aircraft manufacturers, and other companies as well. essions held in Buffalo March 26-27.

Although all matters discussed were confidential, Artemus Gates, Assistant Secretary of the Navy for Air, said progress was made in deeffective procedures termining assure fulfilling Naval combat aircraft requirements in 1943 and 1944. Capt. Paul Pihl, head of the Bu-reau's Production Branch, presided at the sessions. The members vis-ited the local plants of Bell and Curtiss-Wright between meetings.

Companies represented were Bell, Brewster, Consolidated Vultee, Cur-Frewster, Consonated Vultee, Curtirs-Wright, Douglas, Eastern Aircroft Division of General Motors, Goodyear, Grumman, Martin, Vega, Chance-Vought, as well as the Naval Aircraft Factory at Philadelphia.

Two Car Families To Be Best Plane Market—Stanton

"Transport aviation could sume only a small proportion of our industry's vast output, Charles I. Stanton, Administrator of Civil Aeronautics, in a statement describing difficult industrial prob-lems which must be overcome be-fore the dream of an airplane in every garage and American commercial cargo planes in every corner of the world can become a reality. A new slant at the post war market was brought into sharp relief by Mr. Stanton's suggestion that the sports plane will find a new outlet mainly in the present two-car family.

The bulk of the airplane market will have to be made up of pur-chasers of small aircraft for private, business and personal use, or for commercial operations such as training, rental and charter.

Mr. Stanton elaborated on problem of a civilian market for planes by saying, "Few people will give up their auto to own an air-plane until and unless the latter becomes a much more versatile conveyance—perhaps by ability to shed its wings at the airport and chug about town under its own power. But many will give up a second car for a plane and this two-car group in America numbers more than a million families. Moreover extremely cheap, small war auto would enlarge this figure.

"To these conventional and fairly ertain prospects must be added speculation on the part to be played by the helicopter, whose recent de-velopment has removed all doubt as to its practicability. Operating from the back yard of a country home, the roof of an office building or hotel—there's a situation offering a variety of utility which taxes the imagination.

"War is pushing aviation ahead infinitely faster than peace has ever done," he said. "Its 1942 production cone, ne said. "Its 1942 production was nearly \$6,250,000,000, a volume nearly 13 times as large as that of 1940 and more than 50 times that of 1938. Its 1943 production will be three times that of 1942—some \$20,-000,000,000."

Striking contrast to these figure is provided by a comparison with the output of the automotive industry which Stanton said in its peak year produced \$3,700,000,000. This tremendous proportionate expansion serves to emphasize the equally huge problem of conversion to peacetime industry.

Explaining the postwar conver sion problem, Mr. Stanton said, "American aircraft plants must have consumers of their products. The airlines will consume a relatively large number of transport airplanes But how many? In 1942 the airlines of this country carried more than 3,300,000 passengers and did the whole job with only 176 planes. Twenty times as much business thus might be handled with 6,000 or 7,000 large aircraft—and by war's end we will have single plants which can produce this many per year." year.

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Gill Wilson Urges Broad Postwar Planning Program in Lea Bill Brief

A PATTERN of postwar aviation planning which would provide facilities and operational leeway for private fliers, place direction of do-mestic aviation policy specif-ically in the hands of Congress rather than Federal agencies, and commit the United States to reciprocity in foreign air commerce, is proposed by Gill Robb Wilson, president of the National Aeronautic Association and State Aviation Director of New Jersey, in a brief filed with the Committee on Interstate and Foreign Commerce of the House.

Wilson declared that any over-all plan for the future of aviation "involves both trends in aviation and trends in government," and said his plan was based upon the traditional separation of legislative, executive and judicial branches of the government, upon preservation of the citizen's freedom, and upon apportionment of sovereignty between the Federal government and the states.

His brief was filed upon the in-vitation of the House committee which is now rewriting the so-called Lea bill, which will largely super-sede the original Civil Aeronautics Act of 1938.

In a section devoted to the foreign ir commerce policy of the U. S., Wilson presented several novel sug-gestions, and recommended extension of the Monroe Doctrine "into the air," as the guiding principle for air commerce in the Western hemisphere. His proposals for foreign policy follow:

Lists Proposals

"a. Declare the policy of the United States to be one of readiness to make with other nations equitable reciprocal agreements for the operation and control of foreign air commerce into and from the United States, her possessions and terri-

"b. Declare that the basis of reciprocity in foreign air commerce between the United States and other nations shall be in tonnage or numbers of aircraft, as the ratio of sub-sidy provided by the United States to her foreign commerce air carriers is to the ratio of subsidy pro-vided by any other nation is to its foreign commerce air carriers.

"c. Declare the desire of United States to convene with other nations for consideration of national air base locations which in the judgment of the interested nations are vital to the reasonable national security of each and of the peace of the world at large.

"d. Declare that it is contrary to the spirit of the Monroe Doctrine that any nation other than the peace of the tank page.

that any nation other than the na-

tion of sovereignty should own or control any domestic air line in the western hemisphere.

"e. Declare that it is the policy of the United States to regard the skies above the open oceans as free to the aircraft of the world, except for such flight regulations as are essential to human safety, and except that the sovereignty of each nation shall be extended in the skies seaward to a distance agreed upon by international treaty.

"f. Declare that the United States is prepared to join with other na-tions in the establishment, operation and control of such airways and airway facilities as are projected over the skies of the free and open

International Patrol

"g. Declare that the United States is prepared to join with other na-tions in the establishment of an international air patrol over such areas as are not within the sovereignty of any one nation and for such purposes as relate to general human welfare, relief in peril of sea, famine or disease and to pre-serve for equitable use the natural resources of the land and sea.

"h. Declare that the United States recognizes that the ornited states recognizes that the sovereignty of all nations is projected on the skies above their lands, territories and possessions."

In applying his "pattern" to do-mestic aviation, Wilson urged that jurisdiction be "restored" to Congress. He advocated establishment of such airways and facilities as are essential to the common defense and to interstate and foreign commerce, and formulation in the interests of uniformity of cardinal rules for safe flight procedure. After that, he urged, "leave to the several states such opportunity for intrastate commerce and economic development as is inherent in their sovereignty and

not incompatible with Federal au-

He advocated also education and material assistance to foster and promote the miscellaneous utilities of aviation in their relation to the community life of the nation with the same zeal as is applied to the promotion and protection of inter-

state and foreign commerce.
Under the heading of organization to accomplish this, Wilson recommended:

"Restore the independent status of Federal aviation administration, reporting directly to Congress. Recreate the Air Safety Board, responsible only to Congress. Fix fitness experience standards for executive personnel in Federal avia-tion administration. Establish in the CAA the Office of State Coordinator, the chief of which shall be Assistant to the Administrator of CAA and consultant to the CAB and Safety Board. Provide for the creation of an Advisory Board to the CAA Administrator, drawn from civil, military and naval aviation in such proportions as may represent the over-all development of aviation."

Among his suggestions for policy under this type of organization

Airways System

Establishment of a comprehensive system of Federal airways essential to defense and interstate and foreign commerce, and laid down on the broad principles of complete mobility for defense air power, postal distribution and public convenience.

Provision for the development of national airport program suitable to the needs of interstate and for-eign commerce and financed entirely

by the Federal government.
Provision for the development of a national airport program whose utility would be in miscellaneous aviation uses, and the cost of which would be apportioned between the

Luke Smith Shifted

Control of the cadet train program of CAA-WTS been removed from Brig. (Luke S. Smith, formerly rector of Individual Train in charge of the Aviation (det Section. Under the A reorganization Brig. M. Bevans, Assistant Chief Air Staff, Personnel, charged with the new Avition Cadet Branch in the tary Personnel Division, E. S. Wetzel heads the D sion.

According to AAF office.
Gen. Smith has been relieved of his duty with Headquartes.
AAF, and reassigned to the field, where it is thought will continue in a training pacity.

Federal government and the p subdivision wherein the would lie, on the same basis present highway development gram.

Provision to make the CAR sponsible for review and mendations in all matters of tion where dual taxation is d by any operator in interstate of eign commerce. Make the C participant with party in claims for relief before proper court of jurisdiction wh the view of the CAB dual tax exists in fact.

Fix by law a minimum within which the current pla government aid to scheduled commerce cannot be revoked. vide that no change of ernment aid to scheduled air merce shall become operative one full year shall have passed notification of intention shall been given.

Wilson maintained that "enfor ment of air traffic regulation rever be possible by any conceable staff of Federal authorities more than would be highway traff and recommended that the star prepare to do their own enforci outside the Federal airways airports utilized by interstate Federal airways foreign commerce.

Among other things, he also was provision for the broadest posi-research on a continuous basis the National Advisory Commit for Aeronautics, and advocated p paratory education for meteom gists, traffic control operators, m chanics, pilots, aerial photographs linguists for foreign air command instrument technicians.

Army's Biggest Base

The Army's biggest air base i fighters, a \$20,000,000, 4700 acre a port near Camp Springs, Md, where the completed with the completed. When completed the completed with the complete with will be more than four miles 150 ft. concrete runways, 14 of 50 ft. taxiways, and facilities three squadrons. Maj. H. D. N tingham declared more equipme is being used on the airport than any other similar project, civil or military, in the country.



For Quicker Starting: An Air Forces plane based on an Alaskan airfield is shown here being pre-heated by gasoline-fed heaters. Motor-driven fans blow hot air through pipes to the engines, the heat being confined to the points at which it is needed. Engines are brought to the proper flying temperature in from 15 minutes to an hour, depending on the degree of outside cold.



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WPB Relaxes Lightplane Limitation; 336 Schools Get Flight Contracts

By BARBARA MCNAMEE

WASHINGTON developments in the past two neks have created a gloomy outlook for many CAA operaors by the obvious trend of Army-Navy policy of centralizng more cadets in fewer WTS schools and by WPB's firm prosecution of violators of Limitation Order L-262.

A probable indication of more niency in the future exists, how-er, in partial relaxation of the ver, in partial relaxation of the order in the case of instructor-andidates, who need only a few ours final training. According to WPB release, the aviation stua WPB release, the aviation stu-dent whose ability to fly will con-tibute directly to the war effort" can obtain an exception to L-262, which prohibits the sale or rental of light pleasure aircraft and Link

trainers.
Although Army-Navy officers
have approved 441 schools for the
several War Training Service
courses, official sources admit contracts being drawn up now do not total more than 336, or 168 each for Army and Navy.

Broken down, these figures re-real 108 operators received con-tracts April 1 for the Army's 10-tour cadet program, called officially 'Indoctrination Flight Course." (ally 60 of the additional 88 schools, approved for continuation of preiminary and secondary flight training of AAF enlisted reservists, will have awarded contracts—37 for elementary, 23 for secondary courses.

Awards of two contracts each to en operators reduces the total A few changes can be expected, including the probable addition of 10 to 15 contracts for Link training.

The Navy Dept., having approved The Navy Dept., having approved 200 schools, apparently has adopted a similar centralization policy. It plans to award 141 elementary training contracts and 27 secondary. Twenty duplications bring the number of operators under Navy contract to 148. War Training Service officials say they plan to let few more contracts at this time. CAA officials and representatives, meeting to adjust contractors' pay neeting to adjust contractors' pay rates and instructors' wages, strongrates and instructors' wages, strongly emphasized the necessity for
strict obedience of L-262. Made
effective January 26, this WPB
General Limitation order provides
that 'No single-engined aircraft of
30 hp or less, nor any Link trainer, nor any interest therein, shall be sold, leased, traded, rented, given or delivered by any individual, partnership, association, business corporation, or any organized group of persons . ized group of persons . . . except pursuant to specific authorization (of WPB). Any person who wil-fully violates this order, or who . . wilfully conceals a material fact or furnishes false information

may be punished by fine or imprisonment." Purpose of the order was to freeze temporarily all light planes until WTS had purchased those necessary for its contracting operators.

The order does not affect privately owned planes used for private fly-

ing, nor is it aimed at planes under 49 hp (which, however, must re-ceive WPB authorization to be flown). Most affected were operators with mortgages on their planes who felt they were forced to defy the law to keep up payments.

Many violations were caused also

DPC Reveals Investment Of \$37,000,000 in Schools

DEFENSE PLANT CORP., RFC subsidiary, at the request of the Army Air Forces has invested nearly \$40,000,000 in approximately 60 flying schools which will be used in War Training Service, it is revealed in new testimony before the House Appropriations Committee.

DPC rents the schools to operators, who pay the rental out of AAF contracts, and when the amount of the rental reaches the amount of cost, title to the school is transferred to the War Dept., Rep. Louis Rabaut (D., Mich.) explained to fellow Congressmen.

Following is the listing of the schools furnished the Appropriations Committee by the Secretary of Commerce, Jesse Jones:

Statement of DPC Investments in Flying Schools as of Jan. 31,	1943
Air Activities of TexasCorsicana, Tex	\$631.839
Arizona Gliding AcademyWickenburg, Ariz.	583.129
Bonham Aviation SchoolBonham, Tex	432.118
Brady Aviation SchoolBrady, Tex.	249.186
Brayton Flying Service	436.216
Cal Aero AcademyOntario, Cal	509,432
Cape Institute of Aeronautics, Inc Cape Girardeau, Mo	303.081
Clarksdale School of AviationClarksdale, Miss	382.966
Coast Aviation Corporation Dos Palos, Cal	690,130
Coleman Flying School, LtdColeman, Tex	347.841
DoStamford, Tex.	237,806
Darr Aero-Tech	284,084
Elmira Area Soaring CorporationMobile, Ala. Embry-Riddle CoArcadia, Fla.	225,308
Empry-Riddle CoArcadia, Fia	888,748
Embry-Riddle Co	1,080,518
Georgia Aero-Tech	117.261
Georgia Air Service, Inc	666,232
DoJackson, Tenn.	519,514 458,369
Graham Aviation Co	303.189
Greenville Aviation SchoolOcala, Fla.	381.073
Hangar Six, Inc	659,481
Harmon Flying School Ballinger Tex	320,294
Hawthorne School of Aeronautics Orangeburg, S. C.	356.962
Helena Aero Tech West Helena Ark	548.823
Hunter Flying ServiceVernon, Tex.	408.505
Lafayette School of AeronauticsLafayette, La.	485.404
Lodwick Aviation Military Academy Avon Park, Fla.	288.560
Lodwick School of AeronauticsLakeland, Fla	463,617
Mira Loma Flight AcademyOxnard, Cal	263,378
Mississippi Institute of Aeronautics, Inc Jackson, Miss	194,389
Missouri Institute of AeronauticsSikeston, Mo	522.960
Morton Air Academy Blythe, Cal	601.561
Oklahoma Air College, IncOklahoma City, Okla	508.648
Pacific Air School, LtdFort Stockton, Tex.	642.030
Palo Alto Airport, Inc	471,027
Joe B. Plosser & Chas. A. Prince, copart Sweetwater, Tex.	737.793 327.786
Polaris Flight AcademyLancaster, Cal	478.696
Rankin Aeronautical AcademyTulare, Cal	642,092
Raymond Richardson Aviation Co Douglas, Ga	632.957
Riddle-McKay Aero CollegeClewiston, Fla.	835,435
Riddle-McKay Company of Tennessee Union City Tenn	734.645
Ryan School of Aeronautics	338.440
Rvan School of Aeronautics of Arizona Tucson, Ariz.	609.993
Southern Aviation SchoolCamden, S. C.	634.367
Southern Aviation Training School, Inc Decatur, Ala	682.791
Southwest Airways, IncPhoenix, Ariz	696.072
Spartan Aircraft CoMuskogee, Okla	141.988
Texas Aviation School, IncDallas, Tex	132,849
Thunderbird II	539.132
Twentynine Palms Air Academy Twentynine Palms, Cal	409,170
Visalia-Dinuba School of Aeronautics Visalia, Cal	644,418
Wiggins-Marden Aero CorporationCamden. Ark.	540.387
Wilson-Bonfils Flying SchoolChickasha. Okia.	494,743
Wilson Glider SchoolLamesa, Tex.	301,063
Total	7 000 004
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by erroneous interpretations which indicated the use of planes in in-struction courses were similar to the use of laboratory equipment the use of laboratory equipment by college students and therefor not a case of "renting" out the planes. Both CAA and WPB of-ficials, as well as the operators' own group, National Aviation Training Assn., warned that all violations would be prosecuted.

However, indications that the freeze may soon be lifted were seen in two announcements. In a telegram to all contractors, R. McLean Stewart, of War Training Service, announced on Mar. 30 that "Several requests have been received from individuals who are about to qualify as instructors and who seek an opportunity to rent planes so as to complete their flying time and take their qualifying tests. It was agreed that flight contractors should be authorized to rent privately owned planes, not under contract with CAA War Training, to such individuals where, on application, the CAA-WTS certifies that it is necessary and desirable to qualify the individual for employment as an instructor in the CAA War Training Service."

ing Service."
On Apr. 2, W. L. Jack Nelson,
Chief of the Aircraft Priorities
Branch of WPB and administrator
of L-262, confirmed this announceof L-262, confirmed this announcement, adding that "Since the order was issued, over 6500 transfers of aircraft have been approved and many rentals have been approved for students learning to fly where such flying has contributed directly to the war effort. Planes not needed nor suitable to the training program are daily being released under the order provided the use of the ship by the new owner serves some useful purpose."

Leighton Directs New Navy Regional Office

Capt. Bruce Gardner Leighton of the Navy's Bureau of Aeronautics has left for the West Coast where he will open the Bureau's first experimental field procurement office in Los Angeles. This move may presage a decentralization of procurement from Washington to the field

Until he was recalled to the Navy Until he was recalled to the Navy for active duty, Leighton served as a special assistant for aviation to WPB Executive Vice Chairman Charles E. Wilson and prior to that he was with the WPB Aircraft Production Division. A graduate of the Naval Academy, Captain Leighton has been active in the aviation field since he left the Navy.

since he left the Navy.
Should the experiment prove satisfactory unofficial sources reveal that the field procurement offices may be enlarged and given more power by the Bureau of Aeronautics in an effort to expedite war pro-duction in all the Navy's aircraft

Gen. Haynes Decorated

Brig. Gen. Caleb Haynes was awarded the distinguished flying cross April 5 in New Delhi, India, for a flight from Washington to England under adverse weather conditions last year.

Jones Hints at Terminating U. S.-Industry Partnership

A suggestion that government might divorce itself from industry might divorce itself from industry in the post-war era and need not retain the ownership or operation of industrial facilities it has built for war production, which highlighted a recent address by Secretary of Commerce Jesse Jones, has left Washington observers wondering whether his statement was a trial balloon to test the sentiment of the nation. of the nation.

This declaration, coming from the man who as head of the Reconstruction Finance Corp. has authorized expenditures of \$7,000,000,000 on plants, was in direct contrast to a report issued last month by the President's National Resources Planning Board which advocated government "partnership" in ingovernment "partners dustry after the war.

However, Jones did not specifically give his own views on government in post-war business—a fact overlooked in most press re-ports. He raised the suggestion and qualified it with a "perhaps," and then indicated that the whole problem might be up to Congress.

We must remember that what "We must remember that what we have done in expanding produc-tivity," he said, "has been matched in a relative sense by other na-tions who will have their prob-lems. By the end of the war, pro-ductive capacity properly used can save the world, and improperly ap-plied could become an economic menace.

'Work Together'

"A big question for us to decide will be what to do with our government-owned manufacturing facilities. We will need to main-tain a high level of employment But this does not mean that the government must retain the ownership or the operation of the facilities it has built. Nor does it mean that they should be sacrificed. mean that they should be sacrateed.
It means that government and private business must work together to utilize in peace much of the machinery we have created for war."

To accomplish this, he said, government and husiness must "give

ernment and business must intelligent consideration to working together in confidence for the common good."

As to the final solution, he added:

"In my judgment, Congress will have no greater task . . . It may be popular to give away national advantage. There may be great advantage. There may be advantage. There may be exin business. There may be extreme pressure to sell to private industry at bargain prices. Congress must decide and with great deliberation."

Declaring that international avia-tion will be one of our big prob-lems, he offered no specifications but said: "In the field of economics and in the even more touchy rela-tionship between nations, post-war aviation will be something we must face frankly and wisely. It is cer-tain to be a most powerful agency for the development of commerce and good will." and in the even more touchy relaJones' speech was made at the Army Day dinner of the Military Order of the World War in New York.

Going into detail regarding the government's position in expanding plant facilities, he said in part:

Cost 7 Billion

"In addition to plants built directly by the War and Navy Departments and the Maritime Commission, Defense Plant Corp., a subsidiary of the RFC, has built and equipped 1,479 plants and other facilities costing approximately \$7,000,000,000, all of which are owned by Defense Plant Corp. These include 51 plants for the manufacture of airplanes of all types; 344 plants for making airplane parts; 64 air school plants plane parts; 64 air school plants for training cadets in primary flying; 70 plants for the production of ordnance; 54 for radios and radio equipment, 161 for the manufacture of machine tools; 57 for steel and pig iron; 43 for the manufacture and fabrication of aluminum; 54 for the manufacture of synthetic rubber and its basic materials, butadiene, styrene, alcohol, etc.; 44 plants for the manfacture of 100 octane aviation gasoline; 42 for the production of ships, engines and parts; building pipe lines, barges, etc. The manufacturing capacity of the country has been increased many times, and much of this in-crease must be fitted into our postwar program in such a way as to continue in substantial measure the increased employment that has been brought about by the war effort

"Aluminum and magnesium metals, for the manufacture of which we will have a tremendous capacity, are destined to play a capacity, are destined to play a very important role in our future economy, as is also synthetic rubber. We will have an annual productive capacity of 2,150,000,000 pounds of aluminum (enough to produce 238,000 transport planes), more than one-half of which will be owned by the government, as against 327,000,000 pounds privately owned in 1939. We will have an State Passes Flight Strip Bill

Already approved by the New Hampshire House, a bill authorizing the State Highway Dept., in co-operation with the Federal government, to build and maintain flight strips along the borders of key highways was passed by the State Senate Apr. 1. Although designed primarily as a wartime measure to facilitate movements of military aircraft, construction of such strips is expected to prove of considerable postwar value.

annual productive capacity of 600,-000,000 pounds of magnesium, of which the government will own almost 90%, as against 6,700,000 pounds privately owned in 1939.

"We will have a capacity for manufacturing more rubber than we have ever used, and that fact alone will need to be considered in readjusting world trade and world economy after the war.

Large Investments

"The government's investment in facilities facilities for the production and manufacture of aluminum and manufacture of aluminum and aluminum products will be in excess of \$725,000,000, of magnesium \$410,000,000, and of synthetic rubber \$650,000,000. Some experts estimate that we will be able to produce synthetic rubber for less than 15c a pound, as durable as natural rubber, and less than we normally paid for natural rubber.

"We will have invested in plants

"We will have invested in plants and facilities for the production and manufacture of airplanes, airplane engines, parts, instruments and accessories \$2,640,000,000; this is in addition to all such privately owned plants and facilities; alcohol and chemicals more than \$100,000,000; aviation gasoline, \$125,000,000; plants aviation gasoline, \$125,000,000; plants for the manufacture of machine tools, \$80,000,000; plants for the mining and manufacture of copper, lead, zinc and other minerals, \$160,-000,000; plants for the manufacture of guns, ammunition, tanks and armor, \$440,000,000; radio equipment and scientific instruments, tanks and 60,000,000; ship building, \$150,000,-500,000; and steel and pig iron, \$710,-000,000. The government-owned steel producing facilities will be only about 10% of the total in the United States."

NACA Divulges Main Committe In Annual Report

American aircraft in actual bat have proved to be "the or better in almost every rethan those which they oppose," this "in no small measure" dependent on research of the tional Advisory Committee Aeronautics, the 28th annual a of the committee states. NACA lists its various research con tees and subcommittees.

"As the result of continuing earch, airplanes of still greater fectiveness are constantly being a veloped," it adds.

"The maintenance of supre of the air will be essential to victory and the Committee that the contributions of its searches to the improved peri ance and effectiveness of Ame military aircraft are vital to success of the national aircraft gram," the report asserts, tion of our aircraft in all of the globe has "strikingly den strated" the need for new and proved types of combat airp it points out, explaining:

"Sometimes, i m p r o v e m e to correct defects in, or to inc the performance of, existing planes or equipment can quickly found. At other times, a mi requirement demands the search an entirely new solution, unk to the present art. More rarely, discovery that enemy aircraft in some features superior to Am can aircraft, demands urgent de to make up the deficiency.'

Since 1937, NACA has been propriated \$38,507,425 for tion of new research facilities its staff has jumped from 446 to estimated 4,410 for 1944.

6 Groups

NACA's organizational setnow includes six technical comm according to the report, a

llows:
(1) Committee on Aerodynamia W Air I with subcommittees on (a) su-planes, vibration and flutter; (b) propellers for aircraft; (c) vibration Built duris of dual-rotation propellers for arcraft; (d) rotating-wing aircraft (2) Committee on Power Plants for (a) Committee on Fower Flants in Aircraft, with subcommittees at (a) exhaust gas turbines; (b) exchangers; (d) aircraft fuels at lubricants; (e) lubrication, fricting and wear; (f) induction system delicing. (3) Committee on Aircraft with authorizing with subcompilation. vith a vas Materials, with subcommittees of the m (a) metals used in aircraft; (b) metals for turbosupercharger wheel and buckets; (c) miscellaneous materials and accessories; (d) welding rerials and accessories; (d) welding problems. (4) Committee on Aircraft Structures. (5) Committee at Operating Problems, with subcommittees on (a) meteorological problems; (b) lightning hazards to aircraft; (c) de-icing problems. (6) chedules Committee on Jet Propulsion.



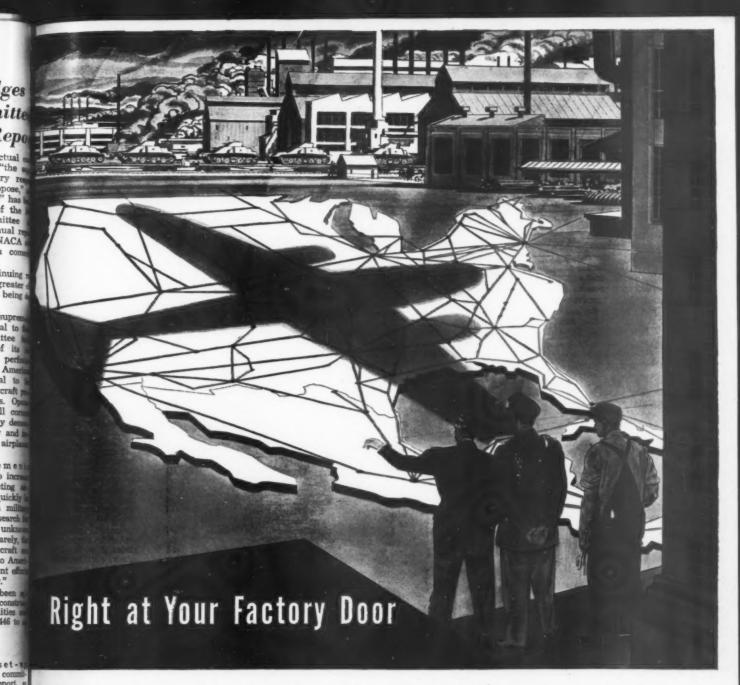
Fighter Bomber: Here is Britain's new Whirlwind fighter plane adapted for bombing work. The twin-engined plane, powered by Rolls Royce Peregrine engines, mounts four 20mm Hispano cannons and carries the bombs under each wing.

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WHEN the Japs struck at Pearl Harbor, the ynamica Al estates by far the greatest in the world.

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The manufacturer, it's almost like having the entire nation right at his factory door—no upplier or sub-contractor can be far away with the fastest form of delivery.

The contractor can be far away with the fastest form of delivery.

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The contractor can be far away with the fastest form of delivery. irect or by rapid Air-Rail connections, with chedules that are figured in hours instead of ays and weeks.

of war plants, with vital shipments that break bottlenecks and keep men on the job.

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Accident Rates

Claiming a downward trend in the rate of all Army aircraft acci-dents in a reply to Congressional criticism recently on Air Forces safety, the War Dept. April 1 in a formal press announcement asserted that in the category of fatal accidents the rate has also dropped.

Describing an exhaustive survey of accidents within the U. S., and their causes, the department noted special progress in the eight months through February, 1943, "despite the great increase in flying and comparatively inexperienced personnel.

"During the first nine months of 1942, the AAF flew, within the continental U.S., almost a billion and a half miles . . . about 135% more miles than were flown by the Army during the entire 10 year period from 1930-1939 inclusive.

"Despite the great increase in both hours and miles flown, a comparison beween the 10 years, with the first nine-month period of 1942, shows a decrease of almost 10% in the rate of accidents per 1,000 fluited hours." flying hours.

"During the same nine-month period in 1942, there was only one fatal accident for every 1,750,000 miles flown, and only one fatality for every 850,000 miles flown.

"In comparing these figures, it must be remembered that the number of fatalities per fatal accident depends on the type of plane in-volved. Thus, an increase in the number of fatalities does not indi-cate an increase in the number of fatal accidents."

The statement pointed out that in the first nine months of last year there were 75 accidents of all types for every 100,000 hours flown by the AAF within the continental U. S. Eight of these were fatal, resulting in 17 deaths.

"During the next 12 months more than 95% of AAF pilots and student pilots in training are expected to fly with no personal injury of any kind—not even a sprained ankle or barked shin—due to airplane acci-

"It is an axiom of flying that the "It is an axiom of flying that the only way to eliminate accidents is to stop flying, with the corollary that the more flying the more accidents," it was said. "With the intensified training schedule demanded by the war producing comparatively inexperienced flying personnel, and the constant factor of faster high-performance airplane, this is especially true."

Gen. Royce Gets DFC

Maj. Gen. Ralph Royce was awarded the distinguished flying cross April 3 by Gen. H. H. Arnold in Washington for leading a flight in the Philippines about a year ago. He now commands the Southeast Air Force Training Center, with headquarters at Maxwell Field, Ala. He previously received the Distinguished Service Cross.

AAF Claims Lower Evans Proposes Convoys Tow Glider to Battle Subs

Proposing that convoys tow gliders, like kites, to protect them from submarines, Col. Edward S. from submarines, Col. Edward S. Evans, Detroit industrialist, told Seattle aircraft and lumber men April 3 that "although we are cheating the Axis submarines by flying freight over the Arctic circle, both gliders and helicopters can be used to defeat the subs."

Whereas the helicopter is superior in certain respects because it can be sent out from the ship, it requires more time, is more costly to build, and it requires fuel.

and it requires fuel.

"Gliders present few production problems, and are cheaper and quicker to produce. If needed, from 100 to 1,000 gliders can be turned out by woodworking, furniture or piano plants next month."

Properly designed gliders, Col. Evans pointed out, can be developed as seeing eyes for the Navy and Merchant Marine. Attached to slow vessels going 15 to 20 knots or less, these trailer planes can rise to a height of 1,000 to 2,000 feet, for observation, he stated.

"Faster ships such as destroyers and cruisers will permit the glider to gain an altitude of 2,000 to 3,000 feet. Submarines or approaching enemy ships and convoys can be spotted by the Navy in time to pro-tect itself if gliders are attached to the parent ship. This can be valuable in offense as well as defense when carried by destroyers or the merchant marine."

Col. Evans contended that these

gliders can be designed so as to conserve space and can either be carried aboard ship with their wings folded to fit into a "V" shaped cradle or can hang over the stern of the ship if necessary.

"As the vessel move

"As the vessel moves forward, the glider with its pilot is released from its cradle by a winch and be-gins ascent, the cable gradually be-

ing played out until the desired altitude is reached. To bring the glider back to the ship, the winch is started and the glider pulled in."

These trailer gliders could carry 500 lbs. of bombs and even machine guns in addition to pilot, a radio, and a powerful pencil searchlight. The radius of the activity of the glider would be circumscribed only by the speed of the ship and the length of the cable.

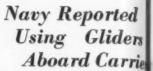
Wind is a factor primarily in as-cension. Take-off is facilitated by a winch. If not heading into the wind, the vessel will be faced into the wind to take an observation or will have to be accelerated to over-come the wind's speed. However, if this is not practical, the glider will be only temporarily unused as a mobile crow's nest. But the prevailing winds and possibilities of maneuver will be largely in favor of the trailer plane for sighting subs, he said.

Kraus Named Inspector

The Navy has assigned Rear Admiral Sydney M. Kraus inspec-tor of Naval aircraft for the eastern district, with headquarters in New York City. He has been ern district, with headquarters in New York City. He has been special assistant to the chief of the Bureau of Aeronautics in Wash-ington since 1941, and is known as one of the Navy's authorities on aircraft engineering. He also holds the designation of lighter-than-air observer.

To Train Brazilians

Several hundred Brazilian youths will be sent for training in the U. S., according to plans believed already completed between American and Brazilian air authorities, a press dispatch from Rio de Janeiro has reported.



The U.S. Navy, in exploring sibilities of gliders in sea-boperations, is making test launching troop-laden gliders in aircraft carriers, the British zine Flight reports.

"In view of the great wing of this type of aircraft, it was appear to be only possible to the flush-deck carrier as opposite to the type with island superstrure," the magazine comments

"The problem of housing to carrying gliders in a carrier a also be a tricky one and sugathe possibility of quickly dea able wings which also fold at half-span. This, of course, is a speculation since no actual information is available on the point." tion is available on the point"

(American Aviation carrier photo of the Navy's new amphili glider in its Apr. 1 issue).

Flight also contends that me stories of Germany's use of the of six to 10 gliders should be counted, because of experime which apparently have shown as loads impractical for a single a craft. However, it cites represent craft. However, it cites repo which have come out of terms indicating that gliders with a mas large as 175 ft., and length 88 ft., may be in experimental muction. Further details on the load capacity and construction in the load capacity and capaci not been received.

"Italy has not followed her a partner in the development of a military glider. . . But it known that a certain amount glider training is being carried by the Japs, although nothing by yet been heard of their using the state of their using the state of their using the state of th troop-carrying type in actual opations."

Navy Commission Its Wright Field

The Navy's giant new air h accommodate various experime units, was commissioned April The main base of the Naval Transport Service also will moved to the airport. Official tis "Naval Air Station, Pature River."

"It is the function of this sta to test and criticize, from an operating point of view, all change improvement in the material to goes into the air and in its a statement orepared for the commonies by Rear Admiral McCachief of the Bureau of Aeronauss

The center is located on a the acre tract, and will consolidate to ious work previously done at An costia, D. C., Norfolk, and Aw Aircraft Factory at Philadelphia.

Facilities for both land and planes have been installed adocks have been constructed.

planes have been installed a docks have been constructed a vessels which will handle free Four hangars are among 45 bulletings which are being completed.



Blimp Nest: Seven non-rigid Navy patrol airships can be seen in the striking photo taken inside one of the east coast airship hangars, or "docks." These blimps are an important component of the Navy's or "docks." These blimps are an important component of the Navy's forces concentrated for the protection of sea lanes off U. S. shores.

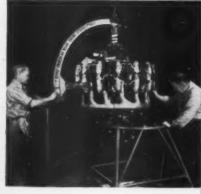
Victory hangs in the Inflance.

PARTS & ASSEMBLIES



CLEANING A MOTOR

MOTOR ASSEMBLY



ROHR AIRCRAFT CORPORATION

The ROHR TILTING Arc

is typical of American ingenuity which is swinging the production balance further in favor of the Allies. It is just one of the many specially conceived devices and methods by which Rohr Production Fighters speed their thousands of tasks to ready Rohr equipped planes for the war front.

The Rohr Tilting Arc enables fewer men to turn out more work in less time and with less fatigue. It suspends heavy aviation motors in so delicate a balance that the pressure of a workman's hand moves them to any position within a 90° arc. Its application to fields of final assembly and advanced base repair increases its winthe-war service immeasurably.

HELPING TO WRITE
THE STORY OF TOMORROW





MATING A WING

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War Agencies Review

REVISION OF CONTROLLED MATERIALS PLAN regulations is now under way. Trend is said to be toward simplification and more realistic basis for allocations according to actual availability of materials and parts. CMP is only partly effective as second quarter starts, due in some part to confusion resulting from changeover from PRP to CMP. Officials insist that CMP will be in full working order by the beginning of the third quarter, July 1.

Vice-Chairman Charles E. Wilson stated that after comprehensive study he felt sure that materials would be available for meeting the reduced aircraft manufacturing schedule.

sure that materials would be available for meeting the reduced aircraft manufacturing schedule.

CMP developments include: requirements committee has completed allotting to industry divisions, steel, copper and aluminum approved on CMP Form 4B to cover requirements of Class B producers. Severe penalties are promised for duplication of allotted materials, WPB warns. Between 5.000 and 10.000 users of controlled materials throughout the country will be surveyed by about 1.200 field inspectors relative to compliance with CMP regulations. WPB in effect declared a moratorium until April 15 on CMP allotment numbers coming into steel mills against order which can only be accepted by displacing orders already scheduled

against order which can only be accepted by displacing orders already scheduled for delivery.

Washington observers believe that WPB and the War Department are planning to close inefficient plants or parts of plants after returns are in from an investigation now being conducted. Machines and manpower might be transferred to other up-to-schedule plants if improvement cannot be made within reasonable time. The changeover may also apply to factories only partly constructed and not tooled up.

All aircraft electric motor manufacturers now have a ten to eleven month backlog forders, the Fractional Horsepower Electric Motor Industry Advisory Committee

reports.

Col. Robert W. Johnson, chairman of the Smaller War Plants Corp., charged that war production has been slowed six months by the erection of new plants where adequate production facilities already existed. "Too many large industrialists have been too enthusiastic on the matter of integrating production and as a result we have built too many big, new plants in this country. We have built new facilities duplicating others already existing across the street in the hope of saving time, money and improving efficiency, but we have lost all three of these."

UNIFORM PRICE ADJUSTMENT POLICIES are now adopted by the price adjustment boards of the War, Navy and Treasury Departments and the Maritime Commission. The plan, which through uniformity will simplify compliance by manufacturers dealing with more than one agency, is an amplification of previous policies and procedures outlined in War Department booklets in August and

The Boards state in their official announcement that "in the present emergency The Boards state in their official announcement that "in the present emergency the existence of excessive profits does not necessarily indicate that a contractor has taken undue advantage of the government or that contracting officers have failed to exercise good judgment under all the circumstances." Necessity for renegotiation "stems from the fact that industry has been asked to produce war equipment for which accurate cost data did not or does not exist. Under the circumstances, costs and profits, at the time contracts are made may, at best, represent estimates. As a result, contractors, in many instances, are left with profits which they neither anticipated nor wish to retain."

FORMATION OF PLANT EMPLOYES TRANSPORTATION DEPARTMENTS was strongly urged by Col. Frederick C. Horner, chief of Highway Division, Transportation Corps of the War Department. Intensifying the program of staggering work hours to permit more workers to use mass transportation facilities is an immediate "must" job, he said. Program for Worker Transportation Departments within plants provides "for reimbursement for out of pocket cost for administration of such departments, by separate Transportation Contracts or by allowing such costs as overhead in case of cost-plus-fixed-fee plants."

WAR DEPARTMENT MANPOWER BOARD is conducting a survey of manpower, both military and civilian, throughout the War Department, and promises to evoke measures to obtain the most effective and economical utilization of every job and every individual in the prosecution of the war.

Absenteeism due to tilness and injury is steadily being reduced in Army industrial installation by an Industrial Medical Program. War Department states. "Nearly all workers in Army plants are exposed to the ordinary hazards of industry. Many of them face the added risks inherent in dealing with high explosives, war gases, irritant dusts or toxic fumes generated in manufacturing processes. Yet the number of accidents in Army plants is small and the amount of working time lost because of occupational disease or injury is surprisingly low."

Officers or employes of the War Department are not permitted to act as agents of the United States in advising, recommending, making or approving purchases of supplies or other property, or contracting, if they are to share or receive any pecuniary profit or benefit from such purchases, War Department rules.

A joint Army-Navy policy covering war constructs affected by recent regulations on length of work week has been agreed upon by Under Secretaries of War and Navy. "The policy recognizes that under existing regulations, which provide a minimum work week coupled with overtime pay rates for employes in certain industries and areas, some war contractors may find their costs increased to the point of loss of fair profit as originally figured and agreed upon under their contracts. In such circumstances the War and Navy Departments will give consideration to appeals for relief."

APPOINTMENT OF A SPECIAL WEST COAST AIRCRAFT COMMITTEE, representing management and labor, to settle wage disputes in eight Southern California aircraft plants, according to the recent NWLB wage stabilization decision.

Industry members of the committee are: M. E. Beeman (North American Aviation) and Graham L. Sterling (Northrop). Labor members are: Roy M. Brown (IAM-AFL); and William H. Brodle (UAAAIA-CIO). Industry alternates are: L. R. Becht (Consolidated); W. G. Tuttle (Vultee); Martin Porter (Lockheed); A. M. Rochlen (Douglas). Labor alternates are: Thomas McNett (IAM-AFL); Edward Hertz (UAAAIA-CIO); and Donald Ketchum (United Aircraft Welders of Aracides). of America).

NWLB states that it intends to take jurisdiction of all labor disputes not settled by other peaceful procedures and to settle them on their merits. Dean Morse re-

Army and CAA Pass the Buckl On Assigning Glider Pilo

During the past two weeks the War Dept. has clearly defined its policy on the confused question of future glider pilot training. But the catch is that most reservists don't know it. CAA-WTS's program was halted in December. In February, the Army announced the conclusion of its preliminary and basic glider pilot training. Because the original quots was rapidly filled little had quota was rapidly filled, little had been done by either since fall.

From now on, it is revealed, some Army men who already have com-Army men who already have completed preliminary and basic training will continue with advanced and operational work. For part of their operational training, the AAF has just opened the first glider pilot combat school, Bowman Field Army Air Base Louisville Kv. where Air Base, Louisville, Ky., where they will become proficient fighting men who can join in ground oper-ations with the airborne infantry

ations with the airborne infantry troops they transport.

CAA-WTS trained glider pilots, neglected after the quota had been filled, probably sometime soon will be offered several choices for the future. But due to Army-CAA failure to allocate responsibility, these enlisted reservists probably have not yet learned that Army may offer them active duty.

On Mar. 23, the War Dept. an-

nounced a letter would be through CAA offering these reservists other specialized av training as aviation cadet crewmen, air crewmen or

CAA, however, disclaims any ther responsibility for the resenand says it does not now intersend out the letters. The passing began after American A tion revealed Mar. 15 that hundred when had complete the complete that the complete the complete that the complete th of reservists who had comp glider training as long ago a December still were waiting for signment.

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Nevertheless, Army contends a glider pilots who can be placed a wish to continue training may assigned to War Training Sen schools as instructors.

Other alternatives are: active a with the AAF in "an enlisted and ity" or, "for anyone who wise release from the Enlisted Reserved. Corps for induction into the Anthrough the Selective Service & tem. Since the glider training p gram was open to men up to there are many too old to be elight for Army's specialized aviation mining. These men may choose and the other three alternatives, Am men contend.

DSC Reports Training Pilots

William A. M. Burden, Special Aviation Assistant to the Secretary Aviation Assistant to the Secretary of Commerce, reported to the House Appropriations Committee that in 1942 the Defense Supplies Corp. sponsored the training of 484 Pan-American youths as pilots and aviation mechanics in the U. S. The cost of the program was \$1,488,000. Most of these youths are now working in their own countries on commercial airlines or in the armed

commercial airlines or in the armed services

The facilities of about 30 private flying schools in the U. S. were used by DSC in its 1942 program.

The program embarked on for 43 was on a smaller scale than the 1942 program, Burden said, because of transportation difficulties and other problems. It involves only the training of 125 men, 75 as mechanics and 50 as pilots.

Emmons Decorated

The Distinguished Flying Cross for "extraordinary achievement while taking part in achieve flights in furtherance of the velopment and expansion" of the air forces has been awarded to Lt. Gen. Delos C. Emmons, com-mander of the Hawaiian Depart-

"PIGGY-BACK" TRAINER: AAF reported this new method of training pilots, said to have been originated by pilots, said to have been originated; Lockheed test pilots. Using the M Lightning, two men fly in the "sing space," by removal of radio equipment thus permitting the trainee to sit as a main center beam of the ship. M claims this technique has cut fin accidents from an index of \$5 is new low of 1.5 within two months.

DOOLITTLE AWARD: Maj. G James H. Doolittle, Commander of 12th Air Force in North Africa w recently honored with the Air Med for "five sorties against the summy War Dept. announces.

ports that the President has delegated to the Board authority to settle all witime labor disputes and its jurisdiction will be upheld not only by Government but also by enlightened public opinion.

LABOR UTILIZATION CONSULTANTS will be available for "almost every ustrialized center of the country by mid-summer." War Manpower Common advises. Question of securing qualified men has not been solved by dustrialized center of the country by mid-summer." War Manpower Cossion advises. Question of securing qualified men has not been solved. McNutt admits. Specialists in various war industries are to be sent as a shooters to do short term specific jobs where the need arises, the Commistates. Industry men will be asked to volunteer or be drafted to solve parts

problems.

Increased efficiency in war production has presented a problem to many the which is engaging attention in Washington. Through improved methods as hours in manufacturing have been cut down materially in some operations. It has provided an excess of labor that must be held if new materials are to available for meeting this year's expanded production schedule. War Manyer Commission spokesmen are now considering possibilities of moving such established to plants where needed, on a temporary basis. Industry men vigous

CONRAD CAMPBELL

-American Aviation for April 15, 194

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Giving Japa ...

The large in the prices has at humber and the convoy attempting to land troops on the convoy attempting to land troops on the meth coast of New Guinea. Several destructive list were scored on transports and escorting archips, five Zeros were shot down and the voy fled ...

attack in weeks on tracked and

ontends in the placed in placed in the placed in placed in the placed in placed in the port was badly battered and many was blown un...

In two runs over the Jap airdrome at Lae, fighters on the ground . . .

active di sted one ho wished Reser the Am ervice Sp aining pu up to it B.25's located a Jap destroyer and two smaller vessels attempting to bring supplies to New Gainea and sank all three . . ."

You could fill a book with the list of Jap losses n New Guinea. Into this bottomless pit the esemy has poured men, ships, supplies and planes in a desperate effort to conquer the island. Instead they suffered their first major land defeat of the war in the South Pacific.

On this front, as on many others, "North American Sets the Pace." Powerful North American B-25 Mitchell bombers, more hated by the Japs than any other United Nations planes, have been active in the New Guinea theater for more than a year. At Gona, Buna, Lae, Salamaua and every other point where there were Japs to be killed, the B-25's found good hunting.

Today, with New Guinea safely in Allied hands Mitchells are out to blast the enemy from his other bases in the South Pacific. Back home in North American's plants the hunting goes as too. We're looking for, and finding, many improvements that keep us ahead of the Axis.

The Office of War Information says of the Be 25: "No other airplane of its type in friendly or enemy air forces is known to equal it." The laps in New Guinea found that was true. We mean to keep it that way.

WORTH AMERICAN AVIATION, INC.

Inglewood, California
Dallas Kansas City

P-SI MUSTANG

AT-4 TEXAM

8-8 WITCHELL

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1943

The lass hate Mortimer and with reason. This North American B-25 Mitchell bomber has its individ-American B-25 Mitchell bomber has its individ-ual record painted on the fuselage: four flags, one for each Jap sunk, nine rising sun emblems, one for each Zero shot down, and 17 bombs, one for each raid in which the plane took part. Mortimer has room for more flags and emblems. He symbolizes that unconquerable superiority which infuriates the Japs.



Deadly 8-25 Sombers attack a Jap beachhead. Like American planes everywhere, they are painted a camouflage color to match the natural setting in which they are based -in this case, the vivid green of the New Guinea jungle.



Army-Navy **Bulletins**

NEW CONSTRUCTION: War Dept. has announced authorization for construcof an AAF installation County, Fla., to cost above \$5,000,000.

ANTI-SUB COMMAND: AAF's Anti-Submarine Command has extended its operations across the Atlantic, and has the mission of "locating and attacking enemy submarines in any theater where can be located," according to War Dept. In addition to finding and at-Dept. In addition to finding and attacking submarines, the Command is detailed to conducting aerial convoying operations at sea and providing air coverage for coastal shipping. Graduates of regular AAF air-crew schools man the Command's aircraft.

NURSES' HOME: Purchase of the Casa Loma Hotel, Coral Gables, Fia., for use by AAF as nurses' home, has been nced by the War Department.

BOMBARDIER-NAVIGATORS: Under a new AAF training program, outlined by the War Dept., aviation cadets in the future will receive combined bombardier-navigator training. These new combination members of AAF bomber crews will receive full training at both bombardier and navigator schools plus five weeks' additional training in aerial gunnery. Purpose of new policy is to equip one officer to relieve another in either capacity to lessen fatigue or in case one is injured or killed. Existing training facilities in both specialties will be used. Students in training receive appointments as Flight Officers or commissioned Second Lieutenants at end of first phase of training. Flight Officers will become Second Lieutenants at successful completion of their second phase of training. BOMBARDIER-NAVIGATORS: Under

of training.

TECHNICAL INSIGNIA: A distinctive sleeve patch for technical specialists has been disclosed by the War Dept. Patches are of the same basic design. a two and one-half inch equilateral triangle, resting on the point, on a background of ultramarine blue, with individual designs in gold. These designs are: Armament, a bomb pointing down to the right; Communications, pyramid shaped radio tower with flashes emanating from the top; Engineering, a gear wheel centered in the triangle; Photography, picture of a camera, with bellows open, lens pointing slightly down to the right, and Weather, a weather vane with a horizontal cross arrow at the top. Patch will be worn centered on the outside of the right sleeve of the blouse, field jacket, and on the left breast pocket of fatigue uniforms.

PILOT CHART: Navy Dept. has re-

PILOT CHART: Navy Dept. has revealed a new weatherproof and waterproof pilot chart for airplane survivors adrift at sea. Chart is printed on a new material, like bond paper in appearance, and "highly resistant" to the effects of salt water, sun and other elements. They can also be used for catching rain water, Navy claims and for providing protection from the sun. As soon as they can be produced in volume plans call for placing these charts on all lifeboats and life rafts.

AUXILIARY CARRIERS: Navy has revealed it has and will have many more, auxil'ary aircraft carriers, "either converted from merchant type vessels, converted from merchant type vessels, or designed originally as auxiliaries," which will carry aircraft for protection of convoys, and also for delivering fighter planes to combat areas. These ships, says the Navy, are equipped with catapults for efficient launching of military airplanes. "Substantial" numbers of planes now operating in North Africa were transported by this type of ship. Navy adds.

New War Photos



British Visit Wright: Sir Roy Fedden, special advisor to the British Ministry of Aircraft Production, is shown here (center) during a recent tour of Wright Aeronautical Corp. plants. Pictured above, left to right, are Grover Loening, technical consultant, WPB; Myron B. Gordon, vice president-general manager of Wright; Sir Roy Fedden; lan Cair Duncan, a member of the British Aircraft Ministry, and Arthur Nutt, Wright's vice president-engineering.



Training a Gunner: This student, in training at a U. S. Naval Air Station, is practicing what he will do when he meets his first enemy plane. The "attacking aircraft" comes in on the motion picture screen, the student takes aim, and his hits and misses are registered on the screen by an electrical device. Sound effects simulate an enemy plane attack to give the student real "battle practice."



New AAF Raft: Rubber life raft, designed by AAF and U. S. Rubber Co., for equipping Flying Fortresses, holds 7 men comfortably, has a sail, a fabric sea anchor for keeping the nose into the wind and to make the craft more stable. In a waterproof container a fishing kit, emergency repair and signal kit, are packed, along with first aid equipment.

Japs Use Ryans

Through a Dutch color officer who recently escap from Java, Ryan Aeronaut Company, San Diego, (Company, San Diego, has learned that Japa Army pilots are being train in aerobatics and forma flying at Batavia, Java, about 50 Ryan STM milit land plane trainers whad been captured from Netherlands East Indies An to which they were originate sold. Company also learn that an "undisclosed lar number" of Ryan seaple trainers used by the Dutch Soerabaja, Java, were evuated to Australia and later bought and are being used by the R Australian Air Forces the Roy training.

Kaiser Proposes Big Flying Wi

Henry J. Kaiser hit the papers again April 6 with a ment that he can build, win ficial backing a cargo plane ficial backing a cargo plane of the span, of the flying wing win without tail, powered by four hp engines, and which would 175,000 lbs. fully loaded.

Useful load would represent of the total. It could carry lbs. of cargo 4,000 miles.

Carrying only fuel, it could 17,000 miles non-stop, Kaiser in Portland, Ore., while k with fuel and bombs it could be stored to the store of the store attack Tokyo.

attack Tokyo.

Asserting that his engineer already creating the plane of drafting boards, Kaiser favors to of light metals, chiefly magnesim which he already manufactures in his own plant in the West. "It will be the airplane of the future," he said. "I want to buil it now, for war."

Kaiser also revealed that he had engaged E. O. Koppen, formerly defined Massachusetts Institute of Technology, as his chief aeronautical engineer.

Publications Announced

A Procedure for Measuring is Mold Resistance of Protein Glues, is F. H. Kaufert and C. Audit Richards, is title of a recent publication which can be obtained from the Forest Service, Forest Product Laboratory, Madison, Wis. Recommended Practice for Controlling Sap Stain in Aircraft Yellowpope Lumber, by Carl Hartley and Theodore C. Scheffer, may be obtained from U. S. Dept. of Agricultural Research Administration, Bureau of Plant Industry, Soil. tion, Bureau of Plant Industry, Soil and Agricultural Engineering Division of Forest Pathology, Madison

SAWE Conference

Society of Aeronautical Weight Engineers will hold its annual con-ference at Dallas, Texas, May II 18 and 19. Headquarters will be at the Adolphus Hotel.



Pied Piper of the Pacific

Getting rid of rats takes on a new distinction as the rest of the world moves to overpower Axis treachery. And nowhere is a better job being done of it than by the gallant members of the U. S. Army Air Forces. For heroism in the southwest Pacific this announcement of the award of the Silver Star to Lt. Clifton H. Troxell comes from General MacArthur's Headquarters, Australia, October 16th:

attended school and Case

Piloting an Airacobra fighter, he downed one Jap Zero and scattered others which attacked transports he was escorting. After breaking up the numerically superior enemy formation he continued his patrol.

With the devastating fire power of his cannon bearing P-39 Airacobra, this modern Pied Piper of the air destroys the rats which threatened to overrun civilization.

When the rats are gone, he'll come

back to a world in which the technical advances that war has brought to Aviation will be put to even greater

Aircraft, will have the engineering ability, the means of production and -most important-the tradition of Aviation pioneering to play our part in that coming era. @ Bell Aircraft Corporation, Buffalo, New York.

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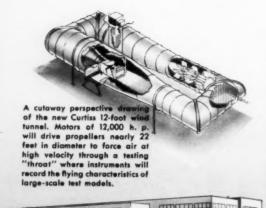
May 1

1943



HURRICAHE

(if required)



• Hurricane? No hurricane of record even could approach the 700-mile-an-hour man-made tempest which will be turned on and off at will in the new Curtiss wind tunnel. One of the world's two largest, it is but part of the modern equipment in the new Curtiss Research Laboratory where all of the complex phases of tomorrow's aviation will be explored.

Here is impressive evidence that the aviation industry is looking ahead to the skies of the future—to a not far-distant day when giant passenger liners...huge cargo carriers...luxurious private craft... fighters, bombers, battleships of the air... will fly at altitudes and speeds eclipsing anything that the world knows today.

CURTISS WRIGHT
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House Committee Urges Reduction In CAA and CAB Funds For 1944

By KATHERINE E. JOHNSEN

REDUCTIONS of \$11,027,-775 for Civil Aeronautics Administration and \$81,500 for Civil Aeronautics Board from 943 fiscal year appropriations re recommended by the House ppropriations Committee in e 1944 Commerce Dept. Apopriation bill.

For 1943, \$38,237,775 was approor 1983, \$35,251,113 was appro-ated CAA by the House, while Committee's recommendation year is \$27,210,000—\$50,000 under he Budget Bureau estimate.

(Estimates for CAA's two largest ojects—airport development and ded in these figures, because the CAA postpones these requests until fater date in the year can be better formulated. In addition to the \$38,-27,775 appropriated CAA by the House in 1943, the Administration eived in other appropriations and 1 Senate additions to the House 1 \$72,236,450 for pilot training and 199,740,000 for landing area devel-

The greatest cut in this year's CAA estimates was for the "estabment of air navigation facilities. h 1943, \$10,533,375 was appropriated under this heading; for the 1944 is al year, the Budget recommended mappropriation of \$2,513,000, which he House Committee trimmed to 2413 000

In 1943, Congress appropriated \$243,500 for the CAB. This year's recommendation of \$1,204,000 for the Board by the House Appropriations Committee is \$42,000 under the Budet Bureau estimate.

wing is a tabulation of CAA nd CAB appropriations and estinates for the coming fiscal year:

nical equipment-both of which conditions are being accentuated with the passage of time, will preclude the carrying out of the contemplated program to the full extent planned.

"The Committee feels that every thing possible should be done to enhance the development in all phases of air transportation and the reduction in funds was made with no thought of restricting or limiting the Administration in this regard," the House group apologized in its

CAB's main reduction under Budget estimates—\$39,000 for salaries— the Committee said "is predicated . that amount of duplication exists in the work of the Board and the CAA with respect to their promulgation and enforcement of air safety regulations." The group suggested that the two agencies "make both indi-vidual and joint studies of the functions pertaining to safety regula-tions performed by each . . . with the view of eliminating all dupli-cation of effort and record-keeping that may exist at the present time."

Witnesses appearing before the Appropriations Committee to justify Commerce Dept. estimates tary of Commerce Jesse Jones; his special aviation assistant, William A. M. Burden; CAA Administrator Charles I. Stanton-emphasized the preponderantly military nature of all civil aviation activities.

In 1943, aircraft movements in the U. S., which were 2,000,000 in 1941, are expected to reach 15,000,-000, Jesse Jones told the Committee, pointing out that 80% will be Army, Navy and Coast Guard and only 20% will involve airlines and CAP ships.

Stanton put emphasis on the military aspect of commercial aviation by calling the attention of Congress45% civilian, this year it has switched to 85% Army and Navy and 15% civilian.

Jones reported on CAA's contributions to the war effort during the year: "Nine new airways traffic control stations were added . . Instrument landing systems are now being installed at 100 additional locations, and the control of traffic will be undertaken at 50 additional airports at the request armed services, bringing the num-ber of airports air traffic controlled by CAA personnel to well over 100. The airway system in Alaska, obviously of the highest strategic importance was extended . .

"The CAA has established and is now operating at the request of the War and Navy Depts, a system of intercontinental radio-telegraph stations which embraces the world. These are located in New York, New Orleans, San Francisco, and Seattle

Names Projects

"In cooperation with the AAF and the Army Signal Corps, Technical Development Division is working on such significant projects as fire prevention in aircraft engines, the development of ultra-high frequency radio ranges, the development of seadrome markers and the highly important work of aeronautical charts."

Burden pointed out that the Airports Division of CAA "is now devoted exclusively to the requirements of Army and Navy. It is planning and directing a \$200,000,000 program for the construction and improvement of several hundred airports . . ."

airports"

CAA's War Training Service, formerly CPT, "has proved to be one of civil aviation's most remarkable contributions to this war," he said, adding:

"A year ago, this system of 600odd private flight-contractors and colleges—all under CAA supervision—was training civilians, college boys principally, at an annual rate of about 33,000 courses, only two or three flight sessions were given per year and on a part-time basis. Now we are training only Army and Navy men on a full-time basis. Six sessions are given per year and in recent months our output has been at the rate of over 100,000 courses an-

Two subjects also brought to the fore by witnesses before the House Appropriations Committee were the new needs of training high school youths and women for aviation work.

Today approximately 250,000 students in 14,000 high schools throughout the country are taking aero-nautics preflight aeronautics, as a result of a CAA program started in Feb. 1942, Burden said. "With the lowering of the draft ages, the air forces are going to start drawing their men directly from the 17 and 18 year-old group, and if those men can get a certain amount of knowledge of the fundamentals of aviation in high schools, obviously the task of subsequent training is going to be much easier," he re-ported, explaining:

"Our method is twofold: (1) to foster preflight aeronautics courses; and (2) to encourage the recasting and (2) to encourage the recasulation of allied subjects such as mathematics, physical science, biology and geography to bring out their relationship to and practical usefulness in aviation.

Over 400,000 student and teacher texts both in preflight aeronautics and in these allied subjects have been sold since the beginning of the last school year, Sept. 1942, Burden

He told the Committee that 2,000 high school teachers have been given CPT ground courses to fit them for teaching in aeronautics. Jesse Jones concurred in Burden's observations on the present necessity of introducing aviation subjects to youths.

CAA contemplates training and using women pilot instructors to a much greater extent in the near much greater extent in the near future, it was indicated at the hearings.

R. M. Stewart, Executive Director of Training, explained that many private CPT contractors have, independent of the government, gone ahead and trained "a great num-ber" of women to be instructors and are employing them. Burden suggested, though, that "we want to train a great many more women as instructors to relieve the strain on manpower."

CAA will not be able to under-take its program of training women pilots as instructors until midsummer, but at that time, if funds and equipment are available, "we should certainly develop facilities to teach the women to be instructors.' Stewart said.

"We certainly want every quali-fied woman we can get and we want them badly," Burden seconded.

Pogue Testifies

Appearing before the House Appropriations Committee to justify CAB's request for 1944 funds, L. Welch Pogue, CAB Chairman, informed the group that during the war period the revenues of airlines are "on the same level that they were on when the air lines had twice the present amount of equip-ment." He surveyed for Congressmen the tremendous jumps in airline revenues and mileage between 1938 and 1941.

Reductions in airline schedules because of the war situation, Pogue said, have had the effect of promoting greater plane utilization. average daily mileage obtained from average daily mileage obtained from each DC-3 is now about 1,626 compared to the 1,200 to 1,300 miles per day formerly achieved," he said. At the request of the Air Transport Command of the AAF, CAB effected a reduction in total daily mileage from 368,867 to 207,838, or 56%, in May 1942, according to Pogue. Since then, he said achedules that have then, he said schedules that have been added amount to 60,249 miles, an expansion of 29% over the May 18 service.
Of the total of 3,376 air accidents

(Turn to page 28)

	Appropriations, 1943	Budget estimates, 1944	Amount recommended in bill for 1944	Comparison with 1943 ap- propriations
CIVIL AERONAUTICS ADMINISTRATION				
General administration	1,635,000	1,823,000	1,800,000	+165,000
Establishment of	10.533.375	2,513,000	2,413,000	-8.120.375
Maintenance and operation of	22.035.900	19.848.000	19,650,000	-2,385,900
Technical development	950.000	542,000	542.000	-408,000
Safety regulation	2,590,000	2,479,000	2,300,000	290,000
Operation and maintenance	493,500	505,000	505,000	+11,500
Total, Civil Aeronautics Administration	38.237.775	27,710,000	27,210,000	—11.027,775
CIVIL AFRONAUTICS BOARD				
Salaries and expenses Printing and binding	1,225,500 18,000	1,189,000 15,000		75,500 6,000
Total Civil Aeronautics Board	1,243,500	1,204,000	1,162,000	-81,500

The Committee explained its cuts nder Budget figures "on the thesis that the present manpower short-age and difficulty in obtaining techmen to the fact that while in 1941 the percentage of flights over our 35,000-mile airways system was roughly 55% Army and Navy and

American Aviation for April 15, 1943.

Protests From States Force Further Vinson Promise Rewriting of Lea's Aeronautics Bill

EFFORTS are being made by a three-man subcommittee to delete from the socalled Civil Aeronautics Act of 1943, the Lea Bill (H.R. 1012). features which have brought a storm of opposition from individual states throughout the country, as the second redrafting of the bill goes into the final stretches.

Spokesmen for the group said recently that some state delegations already had been convinced that the redrafted bill would provide protection for states' rights, and predicted that opposition on that score

dicted that opposition on that score will lessen materially when the revised bill is given to the House.

Designated for the rewriting job were Chairman Clarence F. Lea (D., Cal.) of the Committee on Interstate and Foreign Commerce; Rep. Alfred L. Bulwinkle (D., N. C.), chairman of the aviation subcommittee; and Rep. Charles A. Wolverton (R., N. J.). During the past fortnight they were meeting almost daily and going over the new most daily and going over the new draft sentence by sentence.

Meanwhile, it appeared probable that the bill might not be called up for debate in the House until some time in May, if announced plans of Congressional leaders for an Easter vacation materialize. It was indivacation materialize. It was indi-cated that the committee might give precedence to more pressing legislative matters.

3 Phases

Chief protests from the states were directed against three phases of the bill: (1) its definition of air commerce which various state avia tion authorities charged meant Federal regulation of intrastate commerce and invasion of states' regulatory fields; (2) its provisions regarding taxation, which they contended would require Federal approval of any state taxation upon aviation facilities; and (3) its zoning provisions.

It was largely because of these objections that the committee re-opened lengthy hearings after it had reported out the original bill, and then had rewritten the original.

The committee shows every indication of hoping to meet these obcation of hoping to meet these objections before reporting out its final version of the bill and will try to re-word the present bill so as to satisfy the states' rights objectors.

The three-man group will turn over its final draft to the full aviation which are the

over its final draft to the full aviation subcommittee on which are the following additional members: Lyle H. Boren (D., Okla.), Lindley Beckworth (D., Tex.), Francis J. Myers (D., Pa.), Richard F. Harless (D., Ariz.), Pehr G. Holmes (R., Mass.), Carl Hinshaw (R., Cal.), Evan Howell (R., Ill.), and Joseph P. O'Hara (R., Minn.)

(R., Minn.).

Several state legislatures have sent memorials to Congress urging

unfavorable action on H. R. 1012 and particularly objecting to "the trend toward Federal invasion of state regulatory rights." Among these states are Nevada, Vermont, Oregon, Illinois, New Jersey, South Carolina and Michigan, Others had repre-sentatives at the committee hearings to protest invasion of the field of in-trastate control. The National As-sociation of State Public Utilities Commissioners, represented by John E. Benton of Washington, D. C., also entered strong protests. Individual congressmen reported many protests received from air-minded constituents. stituents.

Typical of the memorials to Conwas one from South Carolina, saying, in part:

Hurt Private Flying

"Air commerce (air lines) represents a minor part of civil aviation, and private flying and fixed base operations represent a major of civil aviation whose operations are not interstate in character and therefore are of no concern of the Federal government. The pending legislation would deny to the states their inherent rights to govern within their own states and would seriously jeopardize private flying and fixed base operations.

"By applying the intent of this legislation to other forms of transportation our national would be seriously affected.

"There is no immediate need for this legislation, as the President of the United States is vested with full power under the Defense Act to regulate all aircraft, civilian or otherwise if necessary."

It also contended that many men now in the military service "who have contributed most to the development of aviation and are entitled to their place in aeronau-tics" cannot be heard at this time on the legislative proposals, and that there is ample time in the future for legislation of this type.

The state Legislative Assembly of

Inspect RAF Bomber: Frank R. Pierce, vice president-sales of Nash-Kelvinator, and H. G. Little, director of advertising and public relations, inspect one of Britain's Mosquito bombers. one of Britain's Mosquito bombers. Nash-Kelvinator is manufacturing Hamilton Standard propellers, used on the Mosquito and on other U. S. and British

Oregon was even more emphatic,

declaring in part:
"The amendments provided, if enacted into law, will have the effect of completely nullifying every state right to regulate, control and tax the ownership and operation of aircraft owned and operated exclusively within the state of Oregon.

"It will deprive the state of Oregon of every opportunity and means of fostering, promoting and regulating the local development of aircraft and the rapidly expanding air transportation industry.

"It will stifle the development of aircraft and air transportation by individual citizens by bringing under Federal planning and control all civil aeronautics both for commerce and pleasure.

"The state of Oregon insists upon maintaining its reserved right to legislate, independent of Federal government interference, on all matters of local concern, including intrastate development of aeronautics. The legislative assembly is oposed to the principle of usurpation of all state rights by the central government, and believes the pending congressional bills are based upon that principle."

To date the Lea bill has been through unusual legislative procedthrough unusual legislative proced-ure, particularly the reopening of hearings after a bill had been re-ported out. There is every indica-tion that the state interests will analyze the rewritten bill when it comes from the committee, and if not satisfied will fight either for de-feat of the bill or the adentical not satisfied will fight either for de-feat of the bill or the adoption of further amendments specifically enumerating powers reserved to the states. Since the bill deals with virtually every phase of aviation, lengthy debate is expected in Con-

Urges Reduction

(Continued from page 27)

investigated by the CAB during the 1942 calendar year, 69% or 2,336, were caused by pilot errors, tables furnished the Appropriations Committee by Pogue revealed. Of these, CAB attributed 41%, or 1,401, to technique, 21%, or 737, to care-lessness, and 5%, or 198, to judg-ment. Structural failure, power plant, terrain, and weather com-prised the remaining 30% of the accidents.

Two further subjects Congressmen queried Pogue on were "rate fixing" between airlines and railroads to between airlines and eliminate the competitive element, and post-war commerical aviation.

On the first subject, Pogue asserted that there are no grounds to suspect railroad influences on airlines rates.

He commented: "The thought has been expressed a great many times that under the contract between the airlines and the Railway Express

More Profit Stu

Aircraft, along with other contractors, are slated to have profits reviewed in the near by the House Naval Affairs mittee in its effort to determ the present profit-limitation "renegotiation" is accomplis purpose.

Chairman Carl Vinson (D. assured members of his Come that the "whales" of industry be gone after, as well as the nows," following criticism m his legislation aimed to he "excessive" earnings of Wa sales agents for small by Vinson's "war broker" bi

has been officially endorsed Navy, would subject sales procuring government contractuding those working be subcontractors and prime coors, to the renegation law authorizing the Navy to authorizing the Navy to for ductions in their fees where excessive.

Evidence presented by sample cases brought to lithe Naval Affairs group in that, although Washington representatives receive low centage commissions, abundance of war business great volume of renewal ord brought some yearly earning the \$100,000 level. The car disclosed that in the main su resentatives capitalize on pacquaintance, contacts and in the Government in tran contracts for their clients a not perform special legal of gineering services.

Members of the Naval A concurred that sales agents do p form a worthwhile service to small manufacturer who canno ford a Washington office. Their gument is, however, that the gument is, nowever, that he ings of the agents have been of line with the value of an they render and should be brodown to a "reasonable" level.

Co., which is owned by the roads, the express rates have controlled by the railroads, that is not true, because under contract the air carriers have right to fix express rates prov that no rates shall be below with the rail express rates, without consent of the Railway Exp. Agency."

On post-war aviation, Pogue plored the fact that in the vers of the Lea bill—contemplated as Civil Aeronautics Act of 1943 a laying the foundation for post-commerical aviation—now pend before the House, his request CAB authority to initiate new roll and to regulate security issues in not been included.

Pogue told members of the appropriations Committee that it is in portant that CAB be extended porto "force" establishment of rou for post war commercial aviit developments, as well as pass new route applications. "We we new route applications. "We recommend it again when and so have a chance to do so", he said.



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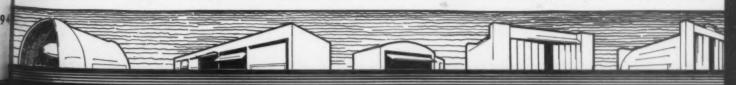
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THE AIR OFFENSIVE AGAINST GER-ANY. By Allan A. Michie. Henry olt and Co., New York City. 152 pp.

Here is an impelling and vital book Here is an impelling and vital book on the war, as timely as today's newspaper. Despite a great many faults which we will discuss later. Mr. Michle's thesis is sound: that Germany can be brought to her knees by aerial bombing, that it can be done in 1943, and that if it is to be done there is no time to lose.

The author lived through the German bombings of England, he is obviously The author lived through the German bombings of England, he is obviously a well-trained reporter. His is a layman's view of aerial warfare with all the enthusiasm and impatience of a patriotic citizen who sees a forceful weapon only partially used. He is outraged at the time lost, at the divergence of equipment to other war theaters, of the golden opportunities to blast German industry off the map not being utilized while there is time.

This much can be said to bis credit:

This much can be said to his credit: his thesis is correct, he has sized up correctly the reasons why the German bombings of England failed, and he is correctly convinced of the vast destruc-tive powers of the new bombers over Germany. He writes many truisms, that is, his general attitude is side-by-side is general attitude is side-by the attitudes of airmen who the airplane and airpower decisive.

On the debit side is Mr. Michie's On the debit side is Mr. Michie's inexpertness on many matters. Some of this can be forgiven. But on the whole his facts on British vs. U. S. bombers don't stand up too well. He begins to contradict himself toward the end and he falls to take into account all of the vast problems concerned with large-scale bombing. He is sitting in one theater of the war, greatly excited about a new and decisive weapon, and hammers for action. On details he skips some important points. some important points.

some important points.

For example he berates American airmen for insisting that Germany can be bombed by daylight. He is correct that weather conditions prevent pilots from seeing their targets from high aititudes much of the time. But more important, he fears the losses from German fighters. But one of the primary aims of the U. S. daylight bombing is to rid the skies of German fighters and once air superiority is attained—as it must if Germany is to be licked—our bembers can go over unmolested by air bembers can go over unmolested by air attack. Michie finally admits this point, but somewhat grudgingly. There is no doubt that he was quite taken over by the British point of view which is correct from the British point of view not necessarily correct from but not necessarily correct from the point of view of American plans. There is much more in the wind in the way of equipment than Mr. Michie wants to admit. We agree with him that we can't wait for Seversky's 1945 super-bombers, but we have some mighty good stuff coming out in 1943 which happens to be this vees.

coming out in 1943 which nappens to be this year.

U. S. authorities maintain Michie is absolutely wrong on some of his comparative figures on bombers. There are other places where Michie got off the beam: On the whole, though, his book is important for his intelligent hammering away at the thesis: bomb Germany now, again and again.

RADIO NAVIGATION FOR PILOTS. By Colin H. McIntosh. McGraw-Hill Book Company, New York, N. Y. 167 pp. \$2.00.

This book, written by the assistant

superintendent of flying school opera-tions, military division, American Air-lines, is highly recommended for airline lines, is highly recommended for airline and private pilot alike. By eliminating academic theory and highly technical terminology the author has achieved unusual clarity and brevity. As the name implies the book deals solely with radio techniques and makes no attempt to treat instrument flight methods.

The contents include the following

the following The contents include subjects: Radio-Navigation Systems. subjects: Radio-Navigation Systems. The Radio Range System, Beam Techniques, Orientation Methods, The Instrument Approach, The Radio Direction Finding Loop, D/F Loop Navigational Techniques, Position Fixes by D/F Bearings. The Running Fix, and the Radio compass. It will be noted that about one healf of the book deals with working with working the process. pass. It will be hoted uset assume half of the book deals with working

half of the book deals with working the loop.

The author's discussion of beam bracketing presupposes the use of a directional gyro and thus he advocates approaching and leaving the beam at rather small angles. Since the CAA has not yet seen fit to permit the use of the directional gyro when taking the instrument flight test the reader using the book in preparation for such test should note well the author's advice to employ much greater angles when bracketing by timed turns and the conventional magnetic compass.

Instrument flying and radio navigation open up a broad new vista of exper-

a broad new vista of exper-the average private pilot. Mr McIntosh is to be congratulated for explaining in a simple, clear, yet thor-ough way how to go about mastering this very important and useful method of flying.

F. A. SPENCER

IR NEWS YEARBOOK. Edited by Phillip Andrews. Duell, Sloan & Pearce, 270 Madison Ave., New York, New York. 264 pages. Illustrated.

Phillip Andrews, Editor of Air News, as compiled and published this yearhas compiled and published this year-book in order to present a concise and yet complete picture of the present air forces of the world. The combined efforts of the best aerial photographers produced the 355 illustrations which por-tray effectively the aircraft of each nation. They are grouped for ready reference according to countries, even to the extent of including the Lend-Leased ships of the United Nations in their respective places, and are followed Leased snips of the United Nations in their respective places, and are followed by a complete description of the function, speeds, armament, engines, and other equipment of each type plane.

The book should be of extreme interest and usefulness to aircraft spotters and aviation students. The value of the book itself can be determined much the same as the Office of War Information.

book itself can be determined much the same as the Office of War Information summed up the purpose of their report at the beginning of the book. "This report is not a study of air strategy or an inouiry into the future of aerial warfare—the purpose of the report is to provide a background." That is just what the book has done—presented a background and one so thorough that it would be unwise to besites recommend. would be unwise to hesitate recommend-ing it despite its apparent commercial and advertising value.

BOMBS AWAY. By John Steinbeck, with photographs by John Swope. The Viking Press, New York. 187 pages. \$2.50.

John Steinbeck continues to give his readers a true picture of the American way of life as he adds "Bombs Away" to his rapidly growing. list of books. This story of a U. S. bomber team was

The publishers announce with regret the resignation of Robe H. Wood, executive editor, who joins another publishing con pany May 1. Bob Wood joined the editorial staff of America Aviation in January, 1938, fresh from a teaching position Northwestern University School of Journalism which he hassumed on graduation from that school. A natural keen new assumed on graduation from that school. A natural keen ne sense made up for any lack of aviation knowledge or news roc experience at that time. He learned rapidly. When Americ Aviation Daily was launched Jan. 3, 1939, Bob Wood was at news helm and he retained full editorial charge of this public that the sense of the public later of the public news helm and he retained full editorial charge of this publication until 1942 when he became executive editor of both daily and news magazine. Regretted as is his departure, it shoul not take place without this tribute to the outstanding contribution he has made in the dissemination of aviation news through these two American Aviation publications. He carries with the best wishes of this organization.

the best wishes of this organization.

Mr. Eric Bramley, who joined the staff during the first month of the company's existence in June, 1937, and who has been the best informed writer on air transportation since that date, becomes executive editor. Mr. Conrad Campbell remains a managing editor of American Aviation Daily. Mr. Clifford Guest for 11 years on the editorial staff of the Pueblo (Colo.) Chieftain, and recently secretary to U. S. Representative J. Edgar Chenoweth of Colorado, has joined the news staff and a further addition will be announced shortly.

WAYNE W. PARRISH.

WAYNE W. PARRISH. Editor and Publisher.

his first assignment after becoming a

Captain in the Army Air Forces.
As the author put it—the backbone of air power is the heavy bomber. The team that commands this type ship has developed a spirit of cooperation that only Americans are especially adept at building. Each student is convinced building. Each student is convinced that he is the best man for his position on the team and is not the navigator or bombardier because he washed

out as a pilot.

While describing the qualifications and While describing the qualifications and activities of each man in a bomber team. Mr. Steinbeck has brought sketches of their actions which the ordinary author would have overlooked. After reading his book the average American with a son in the Air Corps will be more proud than ever and will know that Al as a gunner is the cockiest man in the outfit; that Bill the bombardier is a true sportsman of our bombardier is a true sportsman of our time, and that Allan the navigator can time, and that Allan the navigator can take a ship or plane to any given point. If anyone has previously said to him. "My son's a pilot, yours only a gunner," after reading Steinbeck's book he can retort proudly—"That may be true, but my boy in order to be a member of the team had to be a real soldier."

It is a fee better the same transport of the team had to be a real soldier."

It is a far better book than the usual n of descriptive books concerning the S. Army flying men and will leave a much more lasting impression in the mind of the reader. He also does not neglect the prospects of flying in the post-war years, and the effect the ac-tivities of these bomber teams will have on the individual lives of its members after the final call "bombs away" has sounded and they return home for

HE'S IN THE PARATROOPS NOW. By A. D. Rathbone IV. Robert M. Mc-Bride & Co., New York. 190 pages. Illustrated. \$2.50.

Robert M. McBride Publishing Co. continues its series of books on Amer-ica's fighting forces with this well-illustrated and clearly written story of the paratroops.

the paratroops.

This all volunteer, but carefully chosen, group has the peace of mind of knowing that if they are selected they can be certain they are perfect theyical "cold-jugs," meaning an always cool. clear-headed soldier who

After a rigorous physical training program these U. S. Marine Corps and Army paratroops are put through the paces. They must know all the steps

Bramley, Lindsey Named Officers of American Aviat

Eric Bramley, executive of American Aviation and A can Aviation Daily, has been e vice president, and Thomadsey, business manager, Lindsey, business manager, been elected secretary of Am Aviation Associates, Inc., the lishing company has announ

Other officers were re-electrollows: Wayne W. Parrish, dent; Col. A. H. Stackpole, president; Brig. Gen. E. president, Brg. Cen. E. J. S. pole, Jr., treasurer. Both and Col. Stackpole are on a military duty. Mr. Bramley jo the news staff of the company June, 1937. Mr. Lindsey was pointed business manager in J 1942.

before their first jump. Not only packing and caring for their packing and caring for their chutes, but a complete ground to make their first actual paradjump from a plane. Although m volunteers are attracted by the e \$50 a month "jumping pay," it is be remembered that only II they jumpers will they receive this ext money. As in every Army and Na unit, a base group is also necessary

unit, a base group is also necessary a see that everything is in order. The growth of America's paratropican be easily seen when as Mr. Rabbone points out, you realize that shough in the fall of 1940 the U.S. Army could not boast of a single partrooper, today there are several thosand. But we still have a long way go to equal Germany's parachute amy of 50 000 and Russia's of approximately 100,000.

The book concludes with a brief historical analysis of the parachute development and with a chapter devoid to an analysis of our enemies' tacks and achievements. But Mr. Rathbord does not overlook our own prospets and points out that we will keep piec with our opponents and develop troop that will command respect.

Even if you don't care to read this 100.000.

Even if you don't care to read this book, it would at least pay to look at the illustrations.

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March 14, 1943.

the Editor:

in my opinion there will be a the transportation of commercial when present hostilities cease. Army will, in all probability, tain large operational bases us parts of the world on air-developed and built with rican money. The countries in these airports are located will need for an air transportation that can rapidly distribute products, usually raw ma-throughout the rest of the as well as for the delivery them of manufactured goods in the United States. The Army also need supplies as well as ortation for personnel.

If legislation could be enacted authorizing the Army to negotiate for the post-war period with the airfor routes on which to carry ir cargo and personnel, both stically and overseas, contractto use one-third of the available e in the airplane paying thereapproximately twenty cents per and permit the airline to use remaining two-thirds of the payload for carrying commercial cargo, it would be possible to set up a system of world-wide cargo routes very little cost to the Army.

In the event of another emer-ency, the transportation difficulties recountered in this war would be argely eliminated. After the present war, it is doubtful if the Army will have need for more than need for more than ten per ent of the warehouse facilities constructed at large supply ts such as Mobile, San Antonio, orton and many other places. The ace and facilities they did not use these bases could be leased to the ines and used by them as transdistribution points for

The Post Office Department has, all I say, subsidized the airlines and for roughly twenty million dol-ars per year, has developed an air sportation system that is second to none. For about the same amount oney, the Army could develop a global system of air cargo routes, which would be invaluable in time of war as well as in time of peace. I haven't yet been able to find any problems that would be in-surmountable from an operational point of view. I would be interested to learn what you think of a plan

> AN AIRLINE EXECUTIVE (Name withheld on request.)

(Editor's note: Not a bad idea. The P.O. has always bought certain amounts of space on railroads, whether or not the entire space was used. Such a system could well be adapted to airlines by such big potential users as the Army. We welcome comments from readers on the above letter.)

Boston, Mass.

To the Editor: Your recent editorial (March 1) contains some very disturbing statements. You advocate a policy disturbing American imperialism Pacific and the permanent occupa-tion by American forces not only of "every Japanese mandated island, but we should assume complete control over every other island . . . as far south as New Zealand and the East Indies."

Such statements are extremely dangerous at a time when the de-cent nations of the world, seeing victory on the horizon, are be-ginning to give thought to the steps that are necessary to build a world in which a lasting peace may be secured. The millions whose lives have been disturbed and wrecked by the present conflict cry out for world order in which their children will not once again be com-pelled to leave their homes to be killed and to kill.

It may be impossible to achieve his ideal. It is extremely worth It is extremely worth while to make another attempt to establish a system of world cooperation which may preserve the peace. The choice is between peace and chaos. Under the most favorable circumstances, the building of such a system of collective security will be extremely difficult. The attempt can only succeed in an atmosphere of mutual confidence and as a result of genuine cooperation.

Statements such as yours may defeat these attempts before even the plans for the new world are the plans for the drawn up. Certain principles are beginning to be universally recognized as basic to any decent and orderly world. The first of these is that no nation shall demand territorial expansion. In the Atlantic Charter, this principle was lantic Charter, this principle was announced. Obviously such a basic principle must apply to all nations if it is to have meaning at all. Your suggestion that we should acquire islands in the Pacific at the expense of our enemies and of our allies, if it unfortunately should gain support in this coun-try, would destroy the faith of the orld in the pronouncements of the Atlantic Charter. It would destroy confidence in our sincerity. It would greatly handicap us in any peace conference in which European territorial questions will be discussed. It will embarrass us in our negotiations with Russia, especially in regard to Russia's claims to eastern European territories; and it plays most effectively into the hands of the Nazi propaganda. No statement could be more welcome them as proof that this war is not fought for a principle but only to increase the power of the United

Such statements are dangerous because, by implication, they in-dicate that we have no faith what-

What Others Say

AL WILLIAMS-"The successful fighter plane is just as much the result of a compromise as is the satisfactory motor car; just enough of all that's necessary, and not too much of any one

NEW YORK TIMES-"Berlin received its heaviest load of British bombs this week on the day that Germany was cele-brating the tenth anniversary of the founding of the Luftwaffe One may say today that the Luftwaffe has turned in Hitler's hand, for it was the Luftwaffe that brought the great attacking fleets into being. Never again will the Luftwaffe master the skies as it did in 1940. From America, from Britain and Russia the avenging planes are gathering to turn the German night into day and the day into night. The bonfires of Berlin are only sparks of a conflagration which will sweep the Reich. If it had not been for the Luftwaffe these fires might never have been lit."

MONTREAL DAILY STAR-"Premier King assured the House yesterday that Canada will not be rushed into any commercial air transport deal which might prejudice her post war position Canada, as the nation occupying the most strategic geographical position on the international cross-roads, will have a great deal to say about post war air routes and must, as the Prime Minister intimates, reserve all its rights until the time comes to sit around a conference table."

AL WILLIAMS—"Air routes from now on are at least as valuable as sea commerce rights and routes have been up to the present. When this war ends, there will be no sale of the commerce of the sale of the commerce of the comme present. When this war ends, there will be no sale of carloads of military planes as there was in 1918. There will be thousands and thousands of bombers that can be readily converted to cargocarrying planes, to say nothing of the additional thousands of cargo planes.

NEW YORK TIMES-"With schedules more frequent than those which used to link New York with Washington, giant airplanes now cross the Atlantic day and night. Before 1939 only 78 airplanes had attempted to span this stormiest of oceans; only 11 had reached their destination, while 28 found some haven of safety and 39 were lost at sea."

WASHINGTON STAR—"The fight over the Nichols resolution, creating a special House Committee on Civil Aviation, was complicated by the Administration's own desires to retain control over planning for post war aviation and by jurisdictional jealousies on the part of members of other standing committees now having a voice in aviation development. Defeat of the resolution was hardly a fair test of the separate committee principle itself . . . The Government's dominant philosophy, in civil aviation, has been regulation, not promotion. There must be a change in this philosophy after the war if this Nation is to compete successfully with other air-minded nations of the world, and civil aviation must be encouraged by every means within the power of a sympathetic government. It is unfortunate that the creation of a committee territories, for one important purpose of the resolution was to end the division of authority which has existed in the past . . . In one form or another the proposal will be revived, for regardless of the ability of other standing committees, aviation development in the future is going to demand and hold the spotlight, undivided." Special House Committee was regarded as infringing on existing

soever in the possibility of estab-lishing a world of law and order. Only our total lack of faith in the postwar world would justify our desire to improve our relative strategic position at the expense of our friends and to prepare for the next

Also, by implication, your proposal suggests that once in posses-sion of these Pacific bases, our these Pacific country will be in a position to engage in cutthroat competition in the growing field of air transportation, since we shall be able to establish an air route monopoly in the Far East. This is a definite blow to any plans which are now maturing for postwar economic cooperation.

Peace can only come as the re-ward of cooperation in the military and the economic fields. As yet your opinions are not an expres-sion of the desires of the people

nor of the United States govern-ment. There is danger that your statements may find a friendly reception among certain ill-informed people who still believe that the wise course for the United States lies in establishing itslf as the major lies in establishing itsif as the major military power in a world in chaos. An orderly world may prove to be impossible, but at this stage in world history when all the world is groping for a way to prevent future world conflict, your opinions, as expressed in your editorial, are extremely ill-advised and may defeat the hopes and prayers of millions, if only because they underlions, if only because they under-mine the faith of the world in the aims of this country, aims thus far above suspicion.

J. Anton de Hass Professor of International Relationships Harvard University



Government Publications

Of interest to aviation people is a list of pamphlets, issued by the Superintendent of Documents. Government Printing Office. Washington, D. C. These pamphlets, singly or in groups, can be obtained from the Superintendent at that address, by sending check or money order in advance. Coupons with various unit values are also available for those who wish to make frequent purchases.

Aviation and related subjects, with bibliographical information and priceare listed here, as compiled from Superintendent's catalogue recently issued. General subject heading is included for convenience.

ARMY. Army Regulations 95-150. Army Air Forces: Weather Service. July 24, 1942. Two pp. (War Dept.) 5c. W 1.6/1:95-150. Supersedes AR 95-150. April 14, 1939.

Army Regulations 140-23. Officers' Reserve Corps: Air Corps. July 30, 1942. One page. (War Dept.) 5c. W 1.6/1:40-23. Supersedes AR 140-23, July 5, 1940.

CIVIL AERONAUTICS. Civil Air Regulations. Part 04. Airplane Airworthiness. as amended to Aug. 15, 1942. C 31.209:1942. 54 pp. Illustrated. 15c. Part 18. Maintenance. Repair and Alteration of Certified Aircraft and of Aircraft Engines, Propellers and Instruments, as amended to Sept. 1, 1942. 1942. Two pp. 5c.

WOMEN WAR WORKERS. Your Questions as to Women in War Industries, Types of Jobs, Replacements of Men by Women, Employment and Unemployment. Attitudes of Employers, Operation of Labor Laws, Wages of Men and Women. Training. British Experience. 1942. 10 pp. (Women's Bureau, Bulletin 194.) 5c. L 13.3:194.

ARMY. Army Regulations 1-10. List of Current Pamphlets and Changes, Distribution. Sept. 1, 1942. 27 pp. (War Dept.) Supersedes AR 1-10, Jan. 2, 1942. W 1.6/1:1-10. Army Regulations 10-15. General Staff: Organization and General Duties. July 13, 1942. Six pp. (War Dept.) Sc. Supersedes AR 10-15, Aug. 18, 1926, Including C 2, Oct. 10, 1939. W 1.6/1:10-15. Army Regulations 35-1480. Finance Department: Aviation Pay-Officers, Army Nurses, Warrant Officers and Enlisted Men. Oct. 10, 1942. Eight pp. (War Dept.) Sc. Supersedes AR 35-1480, Nov. 21, 1932. W 1.6/1:35-1480. Army Regulations 35-1640. Finance Department: Pay of Officers, Rates. Aug. 31, 1942. Four pp. (War Dept.) Sc. Supersedes AR 35-1640. Army Regulations 35-2580. Finance Department: Pay and Allowances of Aviation Cadets. June 29, 1942. Three pp. (War Dept.) Sc. Supersedes AR 35-2580, Sept. 30, 1933. W 1.6/1:35-2580.

FEDERAL SPECIFICATIONS. Federal Standard Stock Catalog, section four, part five, Federal Specification for: (Procurement Division): QQ-B-726b. Bronze, Manganese, Castings (including manganese-aluminum bronze). July 7, 1942. 5c. T 58.10/3.

HEARINGS (CONGRESSIONAL). Miscellaneous Bills, Navy. Hearing, 77th Congress, Second Session, on H.R. 7364, to repeal certain laws and to amend other laws relating to Naval aviation cadets to provide for aviation cadets in the Naval Reserve and Marine Corps Reserve.

NAVAL PAPERS. (No. 285). Hearing on S. 2627, to amend the act approved Aug. 27, 1940 (54 Stat. 864), entitled "An act increasing the number of Naval aviators in the line of the Regular Navy and Marine Corps, and for other purposes." (1942). Pages 3431-3433. 5c. Y 4.N 22/la:941-42.

STANDARDS RESEARCH PAPERS.
Characteristics of Wide-Angle Airplane

Camera Lenses. 1942. Pages 233-246, Illustrated. (National Bureau of Standards. Research Paper 1498.) 5c. C 13.22/a:1498.

AIR RAID SHELTERS. Air Raid Shelters in Buildings. 1942. 42 pp. Illustrated. (Civilian Defense Office.) 15c. Pr32.4402: Ai7/4.

CIVIL AIR REGULATIONS. Civil Air Regulations: part 21, Airline Transport Pilot Rating, as Amended to Oct. 1, 1942. 1942. Seven pp. (Civil Aeronautics Board.) 5c. C31.209:21. Civil Air Regulations: part 27, Aircraft Dispatcher Certificates, as Amended to Sept. 1, 1942. 1942. Three pp. (Civil Aeronautics Board.) 5c. C31.209:27. Digest of Civil Air Regulations for Pilots, Sixth edition. 1942. 74 pp. Illustrated. Map. (Civil Aeronautics Administration, Civil Aeronautics Bulletin 22.) 20c. C31.103:22. The purpose of this publication is to explain to the student pilot in as nonlegal phraseology as practicable those provisions of the civil air regulations which most directly affect the pilot.

PUBLIC BUILDINGS. Air Raid Protection Code for Federal Buildings and their Contents. 1942. 173 pp. Illustrated. (Public Buildings Administration.) 20c. FW 6.2:Ai7. This code was prepared in accordance with the request of the President of the United States for the purpose of assisting the Public Works Administration in the execution of a nation-wide program of protection for Federal buildings.

AERONAUTICAL TERMS. Dictionary of Aeronautical Terms, English, French, Japanese, German. 1942. 484 pp. (War Dept.) 35c. W. 108.2:Ae 8. This dictionary of aeronautical terms, originally published by the Japanese, has been reproduced under the supervision of the Director of Intelligence Service, AAF, for use as a ready reference manual in the translation of aeronautical terms.

CIVIL AIR REGULATIONS. Part 01. Airworthiness Certificates, as Amended to Oct. 15, 1942. 1942. Four pp. (Civil Aeronautics Board.) 5c. C 31.209:01. Part 22. Lighter-than-Air Filot Certificates, as amended to Oct. 15, 1942. 1942. Eight pp. (Civil Aeronautics Board.) 5c. C 31.209:22. Part 24. Mechanic Certificates, as Amended to Oct. 1, 1942. 1942. Four pp. (Civil Aeronautics Board.) 5c. C 31.209:24. Part 40. Air Carrier Operating Certification, as Amended to Nov. 1, 1942. 1942. 11 pp. (Civil Aeronautics Board.) 10c. C 31.209:40. Part 52. Repair Station Rating, as Amended to Oct. 1, 1942. 1942. Two pp. (Civil Aeronautics Board.) 5c. C 31.209:52. Part 98. Definitions, as Amended to Oct. 15, 1942. 1942. Two pp. (Civil Aeronautics Board.) 5c. C 31.209:58.

FEDERAL SPECIFICATIONS. Federal Standard Stock Catalog, sec. 4, part 5. Federal Specification for: (Procurement Division.) T 58.10/3. NN-P-521. Plywood Panels and Veneered Lumber-Core Panels. Sept. 19. 1942. 5c. QQ-A-367b. Aluminum-Alloy, Forgings, Heat-Treated. Aug. 25, 1942. 5c.

HEARINGS (CONGRESSIONAL). National Defense Program. Hearings, 77th Cong., second session, pursuant to S. Res. 71, Authorizing and Directing an Investigation of the National Defense Program: part 13, Mar. 9, 10, 13, 14, 15, 23 and 24, 1942. Light Metals, Defense Problems in California, Basic Magnesium, etc. 1942. Pages 5415-5690. (Special Committee Investigating National Defense Program, Senate.) 30c. Y 4.N 21/6:D 36/part 13. Patents. Hearings, 77th Cong., second session, on S. 2305, to Provide for Use of Patents in the Interest of National Defense or the Prosecution of the











Entrekin

Miller

Christenson

Porter

Doris Miller, associated with the Civil Aeronautics Board for about to years, has been appointed assistant chief of its public information section . . . Gladys Entrekin, well known TWA air hostess, in now a Army Nurse and is in training in Kentucky . . . Flo Smith, sister of Brig. Gen. C. R. Smith, has resigned from her position in American Airlines' Los Angeles publicity office, and is handling publicity for Rahi Hemphill's Aero Industries Technical Institute.

Capt. C. M. Christenson, United Air Lines pilot, Salt Lake, Oakland, har received \$250 for the year's best suggestion, an idea for development of a trip-following system which permits a continuous check on the progres of flights over UAL's system. Capt. A. Roy Brown, DFC with bar, well known in Canadian aviation and a pioneer in air operations in Canadian northland, has been appointed associated editor of CANADIAN AVIATION. . David Shawe, formerly managing editor of AMERICAN AVIATION and AMERICAN AVIATION DAILY, is now an Ensign, U. S. Coast Guard Reserve Washington headquarters, in Communications. . . Charles Adams formerly manufacturing editor for AMERICAN AVIATION, has become an Ensign, U. S. N. R., Navy Dept., Washington, also in Communication. . . Clinton A. Rehling, formerly circulation manager of AMERICAN AVIATION and a writer for AMERICAN AVIATION DAILY, is now a Lieutenant, U. S. N. R., with the Naval Air Cadet Selection Board, Sar Francisco, in the recruiting service.

Nathaniel Silsbee has been promoted from Major to Lieutenant Colors in the U.S. AAF...Lt. Robert A. Winston, the Navy's first aviation assistant to the Director of Public Relations, has been detached and have reported for duty with the fleet.

Robert Nibley, of Lockheed's industrial research department and formerly with Western Air Lines, has received a Lieutenant's commission in the Navy . . . Cliff Lewis, director of public relations at Consolidate-Vultee, recently married Beatrice Hollingsworth, former secretary tharvey Tafe, head of Consolidated-Vultee's field service . . . and in George W. Beatty, experimental engineering department, Consolidated-Vultee claims the country's outstanding war family—Beatty, a filer an recipient of highest decorations in the last war, is the father of for sons and three daushters; three sons are in the AAF, one in the Marin Air Wing; of the daughters, two are Army nurses and the third is member of WAAF . . . S. O. Porter, director of personnel for Dougla Aircraft, was one of Douglas's employes recently designated in its Ten of the Month.

Senhora Anesia Pinheiro Machado, prominent Brazilian aviatrix as president of the Brazilian branch of the Women's International Association of Aeronautics, has come to the U.S., at the invitation of CAA, is obtain a U.S. Instructor's license and to take instrument training is Texas... Senhor J. Bento Ribeiro Gantas, official of the Brazilian siline Servicos Aeros Cruzeiro do Sul, recently visited in Washington, La Angeles and Santa Monica.

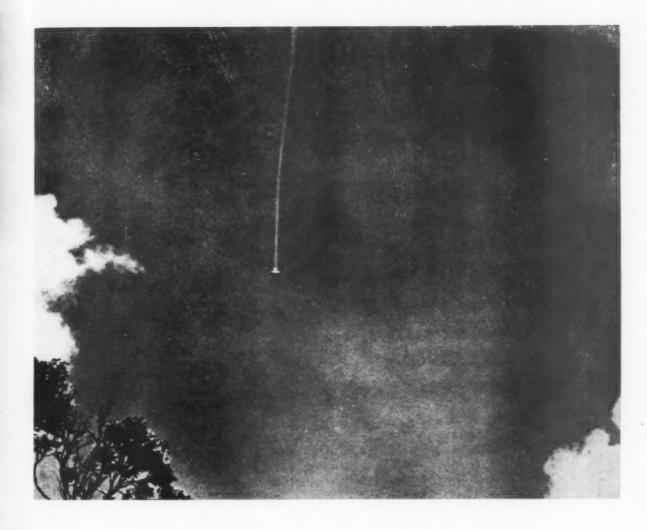
War, and for other Purposes; S. 2491, to Amend the Patent Laws, to Prevent Suppression of Inventions, to Prevent Suppression of Science and the Useful Arts, and for other Purposes: part nine, Aug. 18-21, 1942. 1942. Pages 4753-5258. (Patents Committee, Senate.) 60c. Y 4.P 27/2: P 27/5 part 9. Small Business. Hearings, 77th Cong., second session, pursuant to S. Res. 298 (76th Congress), to Appoint a Special Committee to Study and Survey Problems of American Small Business Enterprises: part 8, Sept. 29, 1942, Economic Background and Tendencies. 1942. Pages 683-816, illustrated. (Special

Committee to Study and Survey Problems of Small Business Enterprises, Ser. 15c. V 4.Am 3/5:R 96/4/part 8.

ate.) 15c. Y 4.Am 3/5:B 96/4/part & METECROLOGY. United States Meter ological Yearbook: (Weather Buren. A 29.45: 1938. 154 pp. Illustrated. Cloft 1939. 136 pp. Maps. Cloth. \$1.00. Pris to 1935 these reports constituted in the statistical sections of the Annual Report.

to 1335 these reports constituted statistical sections of the Annual Report of Chief of Weather Bureau.

CIVIL AERONAUTICS. Civil Air Resulations: Part 61, Scheduled Air Carrie Rules as Amended to Oct. 15, 1942 1942 23 pp. (Civil Aeronautics Board.) 18; C 31.209-61.



Axis "Exit"

"The enemy, Japs and Germans alike, are in a daze because of the fighting power of our B-17's. . . . That plane has knocked down Focke-Wulfs, Messerschmitts and Jap Zeros impartially like falling leaves."

-Lieut, Gen. H. H. Annold at press conference, December 8, 1942

"The B-17's have shown themselves to be exceedingly good destroyers of Jap Zero -Admiral Chester W. Nimitz, December 8, 1942

"Our combat planes cannot get close to the enemy Flying Fortress. It is very regrettable that the only alternative is for us to flee from being killed."

From diary of cuptured Japanese as reported in The New York Times, January 19, 1943.

BOEING Flying Fortresses* struck the first blows of retaliation following Pearl Harbor - gained further vengeance at Midway and over the Coral Sea. They made the first high-altitude daylight bombing attacks on occupied France led the first all-American bombing raids over German territory.

Bombing and slashing at the enemy's nerve centers from Wilhelmshaven to Bizerte to Rabaul, outfighting his fighters, and returning to bomb and fight again-the Flying Fortress has achieved a thrilling record of accomplishment.

The Suzy-Q, Yankee Doodle, Alexander the Swoose, Phyllis - these and scores of other Flying Fortresses are daily

flying into the world's headlines. Theirs is the saga of a true fighting ship, of brave and resolute young fliers-a saga, too, of the men who envisioned and designed the B-17, and of the men and women who now build it.

For the Flying Fortress epitomizes the engineering, tooling and manufacturing skills of Boeing. When the war is won, these same Boeing skills will be at your service for better living, just as today they are at democracy's service for Victory. Together, they will make the phrase "Built by Boeing" mean new comfort, new convenience, new safety and new economy to free men in a free world.

DESIGNERS OF THE FLYING FORTRESS . THE STRATOLINER . PAN AMERICAN CLIPPERS

THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BORING TRADE-MARKS

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Demand for Ground Training Aides Skyrockets as New Programs Open

(One of a series of current reports on aviation education, to be written for AMERICAN AVIATION by A. J. Rosenberg, director, Training Aids Division, of the Airlines War Training Institute, in Wash-

R ECENT announcement of the Civil Aeronautics Administration's special courses in aviation, being given to high school teachers throughout the country, discloses an urgent need for additional instructors for various aviation ground school courses in secondary schools and in the Services.

Never has educational material on aviation been in such demand, as well, and the domestic airlines and aircraft manufacturers are being de-luged with requests for charts, booklets, photographs, diagrams, and other aids.

At the present time, most atten-tion is being placed on high school teacher training courses by the Civil Aeronautics Administration, being offered to all instructors who are now teaching aeronautics or who plan to teach the pre-flight aeronautics program next year.

However, demand for chool instructors is growing daily lso in the rapidly expanding AAF also in the rapidly expanding AAr technical schools and Naval aviation service schools. In addition, there will be a need for instructors in Army and Navy flight training centers, Army contract schools, private flight and mechanic schools, and the airline schools and the airline schools.

Instructors Needed

Civil Aeronautics Administration will also expand and enlarge its flight and ground training program for the CAA War Training Service the aircraft maintenance mechanic program which will start at an unscheduled date. All of these programs will require a tremen-dous increase in the number of trained ground school instructors.

The pre-flight program has as its main purpose to enable high school students to prepare for miliand civilian flight and ground training, and to understand the significance of aviation in a world that mineance of aviation in a world that will be dominated by the airplane. The high school course will be an introduction to further training of flight personnel (pilots, navigators, bombardiers, radio operators, etc.) and ground personnel (meteorologists, aeronautical engineers, maintenance mechanics, armament and communications technicians, for military aviation, airline operetion, and aircraft manufacturing.

This pre-flight course is important not only for the present war prob-lems but also for the peace prob-lems that will follow later.

Further information concerning the high school pre-flight aeronautics course has recently been published by the U. S. Office of Educa-tion, Washington, D. C. The fol-lowing two leaflets completely describe this program:

Leaflet No. 62—"Pre-Aviation Cadet Training in the High Schools." This de-scribes the requirements for Aviation Cadet training, both physical and edu-

Leaflet No. 63-"Pre-Flight Aeronautics in Secondary Schools." This gives a very detailed description of the con-tents of the pre-flight aeronautics course and the methods of organizing this

To teach the program as originally set up will require the procurement of adequately trained teachers of aviation subjects. In the past, an attempt has been made to do this by allowing trained high school instructors to enroll in the ground school courses arranged by the Civil Pilot Training Program. Now, however, the CAA feels that a special course is required, inasmuch as there is a shortage of trained high school teachers. As the high school pre-flight course has already been introduced in many of the schools throughout the country and will be introduced in others in the near future, the need for trained aviation instructors is ur-Therefore, it is important instructors who are interested should avail themselves of this op-portunity to secure additional training in basic aviation ground school subjects.

How to Enroll

Those wishing to enroll in the CAA High School Teacher Training Program should consult local Boards of Education, or the Civil Aero-nautics Administration, Washington, There will be approximately 250 colleges throughout the country providing this aviation teacher

training program this spring.

The course will consist of 54 to 64 class hours in the following subjects:

- Introduction and place of preflight aeronautics in secondary schools.
- 2. General servicing and operation of aircraft.
- 3. Meteorology.
- 4. Civil Air Regulations.
- 5. Navigation.

7 Licenses

The Aviation Teacher Training Program, plus additional study, should qualify the high school teacher to pass the CAA ground instructor examinations. The CAA has established a series of seven licenses for ground school instruc-tors. These ratings are in the tors. These ratings are in the following subjects: Civil Air Reguin the lations. Navigation, Meteorology, Aircraft, Engines, Instruments, and Parachutes. Each examination con-sists of 100 questions on the subject matter and an equal numb methods of teaching the subject. It is not necessary for the instruc-

tor to take all these examinations. He can qualify in any one, or any group of subjects, or he can take the examinations over a period of time until he has all the ratings. The pre-flight aeronautics course not require its instructors to ob-tain the CAA ground instructor ratings, but these ratings will be essential for teaching any CAA essential for teaching any CAA flight or mechanic training programs, and also will be required in many of the Army, Navy, manufacturing and airline schools. Once obtained, these ratings will be good indefinitely provided that the instructor teacher agriculture subjects. structor teaches aviation subjects. Thus any high school instructor Thus any high school instructor will be able to obtain a working knowledge of basic aviation sub-

Help Counselors

Increased familiarity with the aviation field and its many occupations will enable high school guidance counselors to answer the questions that are frequently asked and to offer proper advice to pupils who may desire to find their vocations in this field.

Listed below are pamphlets which

will aid the guidance instructor in discussing with both pupil and parent the various aspects of aviation training. This group of pamphlets discusses opportunities in the aviation field, lists all jobs available in aviation, the various phases of aviation training, the requirements and qualifications for both military and civil aviation and the opportunities for advancement.

Pamphlets Listed

1. A Guide to Aeronautical Occupa tions, published by Boeing School Aeronautics, Oakland Airport, Although published several years it presents a thorough description of tions, published qualifications of pilots, maintenance enrequired by the airlines in the past. 2. Teachers' Manual of Aviation Aids,

published by United Air Lines, Clearing Station, Chicago, Ill. This gives a general discussion of airline maintenance, air cargo, airway traffic control, airport maintenance, etc., and many of the jobs in aviation with particular emphasis on the use of this material in the class-

room.
3. Handbook of Aeronautical Vocations by Van Haitsma, published by Zeeland Book Co., Zeeland, Mich. This book deals with the advantages and disadvantages of aviation as a career with complete discussion of various with complete discussion of various positions of flight and ground occupations for military, airline and manufacturing companies. The qualifications required for each position, the training necessary, and the opportunities for advancement are also thoroughly discussed

4. Training and Employment Opportunities in Aviation, published by the Civil Aeronautics Administration. Washington, D. C. This lists pilot, mechanic, ington, D. C. This lists pilot, mechanic, and military training, and aeronautical engineering. It gives a description of the courses, where to apply for the training, and the requirements for the training. This bulletin, although published before the War, contains considerable information which will be

to the guidance teacher.

The following six booklets are published by the U. S. Office of Lacation, Washington, D. C.

5. Bulletin No. 142-Vocational Tre ing For Aviation Mechanics by h Robert W. Hambrook. This book though published in 1932, includes useful suggestions for both the last school teacher and guidance counse.

6. Bulletin No. 185—Aviation is a Public Schools by Dr. Robert W. Imbrook. Although this book was palished in 1936, it is very useful insmuch as it includes description of an occupations. aviation material and many helpful a gestions for teachers.

7. Miscellaneous No. 2177—Aeronitical Courses in Colleges and Union stites in 1941. This gives a description of some of the aviation courses in are taught in the colleges and in the colleges and in the colleges.

8. Miscellaneous No. 2295—Avision Courses—1941. An outline of the aristion courses taught in many of the high schools.

9. Miscellaneous No. 2913-Occup Information Guidance Service—A light ing of the guidance officials of State Departments of Education as of November 1941, and a list of some of the tions by the U. S. Office of Econcerning guidance.

10. Victory Corps Series Pamphlet No. -Enumerates the objectives, organize tion and administration of pre-indu-tion training for the Air Service Divi-sion and Pre-Flight Training.

-A. J. R.

Obituary

Col. H. Weir Cook

Col. H. Weir Cook, 50, U. S. AAF, died Mar. 25 in the South Pacific war area from injuries sustained in a plane accident. Col. Cook was a captain in Capt. Eddie V. Rickenbacker's Hot in the Ring squadron in World War I, and was one of the early U. S. mail pilots. He reentered the Army before Pearl Harbor.

Clarence Schiller

Capt. Clarence "Duke" Schiller, of RAF ferry command and the RAF ferry command and widely known veteran flyer, was killed Mar. 14 in a crash landing in Bermuda. Capt. Schiller was formerly a pilot for Gar Wood of Detroit, and at various times after the last war was engaged in commercial flying projects in the Middle West and Florida.

Dr. Edward Curran

Dr. Edward Curran, 70, one of the developers of the altimeter, died Mar. 7 of a heart attack in Al-hambra, Cal. In 1920 Dr. Curran obtained patents on altimeter developments which simplified the instrument, but later sold his rights.

Cornelia Fort

Cornelia Fort, 23, with the Women's Auxiliary Ferrying Squadron, was killed Mar. 21 while on a routine ferrying flight when her Amy plane crashed near Merkel, Tex. THESE ARE THE NUTS LOCKED in SEALED of top to protect place on bol FOR TOUGH JOBS by grip of tough rking threads locking collar from corrosion HOLDS nut FITS any stand ard bolt. Made bolt thread in all sizes prevents

War jobs have posed infinite production problems.

We know a lot of them that were solved with as simple a thing as a nut.

Because the solution was an Elastic Stop Nut.

For example, aircraft. Their very worth depends upon fastenings that grip sure and won't shake loose under the chatter of machine guns, the impact of cannon fire and the vibration of air combat.

Every plane streaming off America's production lines has Elastic Stop Nuts fastening important structural parts. Several millions of them go into aircraft every day.

And to our knowledge, not one has ever failed to do its job.

With two big plants running full-tilt 24 hours a

day, we can't satisfy all the needs of today's one big customer.

But in the days ahead, with Elastic Stop Nuts generally available, peacetime products and their production are going to be better.

And our engineers schooled in solving the rigorous problems of war production will be at the service of manufacturers with fastening requirements.

Whenever you wish, they will be ready to share their knowledge with you and recommend the desirable Elastic Stop Nut.

ELASTIC STOP NUTS

Lock fast to make things last

ELASTIC STOP NUT CORPORATION OF AMERICA UNION, NEW JERSEY



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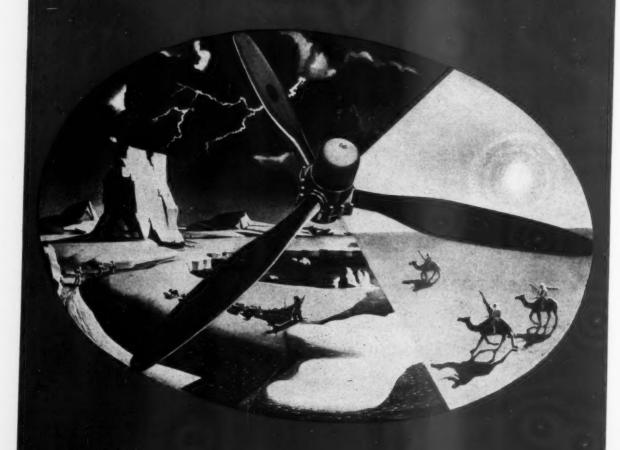
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NEITHER SNOW NOR RAIN NOR HEAT...



by Ran American Airways as it speeds vital was restard to routh, south, south, and west to the far corners of the earth.

Dependable Hamilton Standard propellers, or administration in huge transports, function perfectly through all these extremes of weather.

MILTON STANDARD PROPELLING

FOUR DIVISIONS OF UNITED ALOCAL



If The War Ends Tonight...

...tomorrow American industry will be busy building an infinite number of strange new products born in this war. Possibly you are now making such products and planning their peacetime applications. We invite you to investigate the facilities of the Weatherhead Company whose plants are now producing vital parts for planes, tanks, ships and trucks at the rate of millions every day. Just as we've helped build planes, cars and refrigerators in the past we look forward to building the remarkable new products that will make tomorrow's world a better world.

Look Ahead with



Weatherhead

Manufacturers of vital parts for the automotive, aviation

Branch Offices: Detroit, Los Angeles, New York and St. Louis



Photograph, courtesy Transcontinental and Western Air, Inc.

ST BE DEPENDABLE COMMUNICATIONS

The reliability of Wilcox communications and other radio equipment has made them invaluable servants of leading commercial airlines.

Now, the entire output of Wilcox factories is going to wartime uses, and the experience gained during

peacetime is standing in good stead for military operations.

Thus, Wilcox is keeping pace with the miracles of flight...and, after Victory, new Wilcox developments will be available for the better-tolive-in, sane, sensible world ahead.

Communication Receivers Aircraft Radio



Airline Radio Equipment Transmitting Equipment

WILCOX ELECTRIC COMPANY

Quality Manufacturing of Radio Equipment

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KANSAS CITY, MISSOURI

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N. Y.—Florida Line Proposed for National

Denial Asked of Seaboard, PCA, Colonial Routes

By ERIC BRAMLEY

ESTABLISHMENT by National Airlines of a route between New York and Jacksonville, Fla., via Philadelphia, Norfolk, Wilmington and Charleston was recommended Mar. 30 by CAB Examiners Francis W. Brown and Lawrence J. Kosters.

In their 101 page report on one of the most controversial cases confronting the Board, the examiners also recommended complete denial of Seaboard Airways' proposals to operate service between New York, Miami and New Orleans.

Eastern Air Lines, they said, should be permitted to include Raleigh, N. C., as an alternate intermediate point to Greensboro, and Columbia as an alternate to Charleston, and should be authorized to extend AM40 from Tampa to Miami.

Applications of Colonial Airlines and Pennsylvania-Central for New York-Nassau and Rocky Mount-Jacksonville routes, respectively, should be denied, the examiners continued.

EAL attempted to secure the Tampa-Miami extension two years ago, but was refused by the Board. Brown and Kosters pointed out, however, that a New York-Jack-sonville route operated by National would offset any losses that the campany might incur from Tampa-liami competition.

Little Duplication

In favoring National for the long route, the examiners explained that although EAL would experience competition, no substantial portion of its routes would be duplicated.

Discussing Seaboard, however, they warned against the "dangers of a directly duplicating service "which would "blanket the major portion of the Eastern system."

National, they continued, would also "provide new air transportation service along the Atlantic coast which would bring direct service to Wilmington and would directly connect the important coastal ports of Norfolk, Wilmington, Charleston and Jacksonville, where surface transportation is difficult by reason of natural barriers.

"While it would involve the establishment of a competitive service to that of Eastern, it would duplicate Eastern's route only between New York and Philadelphia and Atlantic City, and Charleston and Jacksonville. Such a competitive service follows the pattern under which this country's air

transportation system has been developed to its present high standard and should supply the impetus necessary for the development of an adequate competitive air transportation system along the eastern seaboard without the adverse features of a directly duplicating service.

"Obviously, if National as a new operator between New York and Florida points inaugurated sleeper service, such a service would in turn be provided by Eastern. Similarly, other improvements in service, schedules, and operating techniques by one carrier should be expected to be duplicated by the other. In addition, to the extent that through passengers which would otherwise be carried by Sational, space would be made available for the accommodation of local passengers at intermediate points on the Eastern system . . .

"... the award of a certificate to National ... would provide that carrier with a substantial increase in mileage and an improved source of traffic for its entire system."

Important Decision

Many pages were devoted by the examiners to a discussion of the Seaboard proposal. Because that company seeks a duplicating service, the Board is called upon "to reach a decision on a major question of policy which may affect the development of the air transportation system in this nation for years to come," they warned.

The present system, they continued, "has been built up through the maintenance of competitive services via two or more alternative routes between widely separated centers with a minimum of direct point-to-point competition on identical routes . . .

"The inauguration of the service proposed by Seaboard would require the establishment and maintenance of ground facilities at each of the stations served in addition to those now provided by Eastern. Seaboard asserted that the ground facilities which would be duplicated amount to from 10 to 15% of Seaboard's total estimated investment. In addition, there would be a general duplication of management and supervisory expenses involved in the establishment and maintenance of a separate organization to conduct a directly competitive service. There would also be some duplication of equipment since it appears quite likely that, in the event a competitive service is inaugurated, both carriers would be required by the traffic demands of the territory in order to hold or attract as 'much of the traffic potential as possible.

"In addition to a duplication of routes it is quite probable that the proposed service would also result in a duplication of schedules . . . The dangers of a directly duplicating service have been

demonstrated forcibly in what has become the classic example of simultaneous departures from New York by the three competing carriers on flights to Chicago.

"The Board has repeatedly stated that it believes the air transportation industry is on the threshold of an expansion unprecedented in the history of transportation. It has also recognized that equipment presently being operated on the airlines will become largely obsolete with the close of the present war and that all air carriers will be called upon to acquire the newer equipment with substantial increases in the payload capacity.

Sound Condition

"Recognition of the fact that the carriers will have to be in a sound financial condition to meet this problem has been made in several rate cases, including that of Eastern . . Seaboard contemplates a diversion from Eastern of approximately 23% of its traffic during the first year of operation, and in view of the nature and scope of Seaboard's proposed service it appears probable that this estimate may be conservative.

"The reconstruction period which will follow the cessation of hostilities is bound to present trying problems to those engaged in all forms of business, including air transportation. Each of the domestic airlines is presently operating extensive services in the interest of the prosecution of the war. These services require the employment of many more personnel than have been required for the normal peace-time operations. Obviously the carriers



Longest Ticket: The longest air ticket ever sold in Los Angeles by TWA, and believed to be the longest domestic ticket ever made up by that compeny, is delivered to Warren Burman by Mrs. Modelle Hall, airline ticket clerk. Measuring 15 ft. and comprising 61 coupons, the ticket cells for 33 stops throughout the nation and in Canada. Burman, contract administrator for Vide Products, aircraft parts manufacturer, will visit all prime aircraft plants on Army-Navy war orders, and expects to complete his 10,115 miles of air travel over 12 airlines in seven weeks.

are going to be confronted with many difficult problems in converting the present establishments to a peace-time basis.

"To authorize the establishment of a directly competitive service which would blanket the major portion of the Eastern system and, on the most conservative basis, prevent it from sharing in any of the growth in traffic which might be reasonably expected, would seriously accentuate its problems.

"If Eastern is to be in a position to operate and maintain the larger and more expensive units of equipment which are contemplated in the new area of air transportation to come, it is essential that it be free to share in this growth of traffic without being compelled to share a major portion of it with a competitor.

"As a matter of policy, therefore, it would appear that the Board should exercise caution in authorizing a directly competitive duplicating service which would be inaugurated coincident with the return of our air transport system to peacetime operations."

Neglected Cargo

Noting that Seaboard laid much emphasis on proposed cargo operations, the examiners asserted that "neither Eastern nor any of the other domestic air carriers has developed the air transportation of cargo to any appreciable extent. An explanation for this may lie in the fact that air transportation has only in recent years been accepted as a safe, reliable mode of transportation and that the commercial operators have been engaged in striving for financial stability through the development of the more lucrative passenger traffic.

"The rapid strides of aviation in the past months and the der onstrated ability of aircraft as cargo carriers should result in a wide expansion of air cargo business in the future by all of the commercial airlines. Seaboard has not alleged or demonstrated that the existing carriers are incapable of conducting such a service or that it is peculiarly equipped to enter the field of air cargo operations."

In opposing Colonial's New York-Nassau application, Brown and Kosters said that "the facts of record . . do not demonstrate any need for additional air transportation service to Nassau. Under present authorizations air transportation service between points on Colonial's rute and Nassau is available by means of the connecting services offered by existing domestic carriers and Pan American operating from Miami to Nassau . . Nassau is important as a resort center and its passenger traffic is almost exclusively of a vacation nature limited to a few weeks in the year."

Pennsylvania-Central's proposal to connect Rocky Mount with Wilmington. Georgetown, Charleston, Savannah, Brunswick and Jacksonville would not meet the primary needs for air transportation of these communities, the report stated.

Civil Aeronautics Board Denies Limiting Advertising Expenses

THE Civil Aeronautics Board has answered critics who claim it is tending to limit advertising expenditures of airlines by denying that it is setting any specific limits and that its procedure is merely to indicate reasonable estimates along with other cost items in the reaching of a fair air mail compensation. It emphasized there has been no change of policy.

Because of the national atten-tion given by advertising agencies and publications to the show-cause order issued to Chicago and Southorder issued to Chicago and South-ern Air Lines, in which that air-line's advertising expenditures were given close scrutiny by the CAB with recommendations for a reduction, American Aviation ad-dressed a letter to the Board list-ing four questions. The Board re-plied as follows:

April 7, 1943

To the Editor:

This will acknowledge receipt of your letter of April 5, 1943, with respect to the protests concerning the position of the Board in connection with advertising expeditures of air carriers, such protests having been inspired apparently largely by the statement of the Board in the Statement of Tentative Findings and Conclusions attached Findings and Conclusions attached to the show-cause order issued on January 18, 1943, to Chicago and Southern Air Lines. We are happy to offer you a statement in answer to the questions which you have proposed in that letter, sharing with you the hope that by this means any misunderstanding which has existed will be removed.

I believe that it will facilitate explanation if your questions are answered as a group rather than separately. For purpose of convenient reference, however, your questions are as follows:

1. Is there any change in the policy of the Board toward ad-

policy of the Board toward advertising?

2. Is the Board endeavoring to fix or limit the advertising expenditures of the airlines?

3. What is the Board's interpretation of the following sentence from the show-cause order to Chicago and Southern Air Lines, which sentence has an arbitrary and limiting intent which has given rise to protest: "In view of the limited capacity available for passengers, it appears to be unnecessary to capacity available for passengers, it appears to be unnecessary to continue advertising and publicity expenses at previous levels . . . we find that the advertising and publicity expenses of the respondent should not exceed \$40,000 answells."

4. What is the Board's answer to Prof. John Frederick's claim (published in Printer's Ink) that under

a CAB ruling the ten big airline companies will be permitted to spend only about \$1,500,000 for advertising next year?

The policy of the Board with respect to advertising and publicity expense has undergone no change whatsoever. The policy of the Board with respect to advertising and publicity expense has been and is no different from its policy with respect to all other extensions. with respect to all other categories of expense incurred by the air carriers. In undertaking to determine the existence or the extent of the need of an air carrier for government aid in the form of for government aid in the form of mail compensation, the Board always has, as it necessarily must in order to perform its function of fixing mail rates, estimated the amount of expense which it appears will be reasonably incurred by the carrier in the future under honest, economical and efficient management, this being the standard imposed by the Civil Aeronautics Act.

Usual Procedure

This action of estimating the ex-penses of the air carrier affected penses of the air carrier affected has been performed by the Board in every rate case which it has de-cided since its establishment, and in this respect there is no differ-ence between the Board's action in the recent Chicago and Southern proceeding and its action in numerous mail rate cases which preceded it. It remains for any one to demonstrate how the function of fixing mail rates under the Civil Aeronautics Act can be performed without this process of estimating the expenses reason performed without this process of estimating the expenses reason-ably to be incurred, unless the Federal treasury is automatically: to be burdened with every ex-pense management chooses, for whatever reason, to incur.

As to the amount of the Board's estimate for Chicago and Southern,

on the basis of the facts known to the Board at the time, with primary reliance upon the reports of Chicago and Southern, the Board made its tentative estimate of what appeared to be the expense for advertising and publicity which Chicago and Southern might reasonably expect to incur under curtifications. rent conditions of operation. This estimate is contained in a Statement of Tentative Findings and Conclusions, and is just what that title indicates, a tentative finding.

As you know, such a Statement is one issued by the Board under its so-called show cause mail rate procedure by which the Board, as a means of instituting a rate proceeding and giving the carrier the best possible notice of the issues in the proceeding, issues a statement containing its tentative findings, of which this estimate the advertising and publicity is

Subject to Exception

All of the Board's tentative estimates in such a Statement are sub-ject to exception by the carrier affected, and if any exception is taken, every opportunity is af-forded the carrier to present data or considerations showing wherein the Board's tentative estimates should be revised. Therefore, al-though it appeared to the Board that the tentative estimate for advertising expense which it made in the Chicago and Southern case was sufficient to enable that carrier to continue an adequate pro-gram of so-called institutitional and good-will advertising, and that advertising directed to an immedi-ate increase in traffic could rea-sonably be expected to be desonably be expected to be de-creased during the current war period in view of the already existing demand and the limited capacity resulting from reductions in available equipment, this tentative

estimate was announced for estimate was announced for the express purpose of affording Chicago and Southern an opportunit to demonstrate wherein the Board tentative conclusion with respe thereto might be in error so it might be revised to count of such showing before being made final.

In the Board's opinion there is

no foundation for considering a you suggest in your third question some may have considered, the statement concerning the atvertising and publicity expense Chicago and Southern contains an Chicago and Southern contains an arbitrary limiting intent. Whi reference to the amount of the particular estimate, it is certainly not arbitrary as it is tentative in character and every opportunity is being accorded Chicago and Southern arbitrary are serviced in the contained of the contained ern to advance any considerations which indicate that the estimate is inadequate to cover its reasonable

expenses.

With reference to the action of undertaking to estimate the re-sonable expenses, it must again he emphasized that the only purpus of the Board in making this sti-mate is to determine whether this carrier, under economical and effor government aid and, if so, the extent thereof. It is certainly the extent thereof. It is certainly the exercise of a legitimate function of the government agency charged with that responsibility to make certain that the Federal treasury shall not be charged, in the form of mail compensation, with ex-penses in excess of reasonable amounts. This is the only function which the Board is seeking to perform.

Professor Frederick in his article in Printer's Ink correctly states the estimates of advertising and publicity expense which the Board has made in the ten mail rate proceedings he mentions, the total amount being approximately \$1. 564 000 It is correct that for purposes of determining whether there is any need for government aid to those air lines the Board has esti-mated that those amounts are the reasonable expenses which it may be expected will be incurred. However, these estimates do not constitute any legal limitation upon the amounts which the respective carriers may actually expend.

No Objections

Furthermore, an examination of the records in all of those rate cases, and in numerous ones preceding them, would we believe disclose no instance in which any iir carrier has objected to the fact that the Board has undertaken bestimate the amount of expense to be incurred in this or any other category, despite the frequent dif-ferences of opinion as to the prin-ciples which should be applied in

making the estimate.

It may be helpful to point out that although Professor Frederick apparently treats all ten cases at though the Board had issued is final opinions therein, in fact five of them are only in the initial stages and the estimates he refer to are the tentative ones contained in Statements of Tentative Findings and Conclusions in those proceed-(Turn to page 44)

Visits AAA: Josh Lee, new member of the Civil Aeronautics Board, recently visited All American Aviation's maintenance department at Pittsburgh. Shown here, left to right, are Edward D. Musser, maintenance superintendent; Harry R. Stringer, vice president of mail, traffic and advertising; Halsey R. Bazley, vice president-operations, and Lee.

A letter from General Campbell that we're proud to have you read

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Er. R. S. Gillmor, President, Sperry Gyroscope Company, Hanhattam Bridge Plaza, Brooklym, New York.

the performance of the equipment which your company has supplied our service for carrying out the past year of combat will undoubtedly be of intense interest to your personnel. It is particularly desired to point out the performance of the Director and Remote Control equipment which your company has supplied for 3° and 90 ms. Antiaircraft Gums.

American troops in the Philippine Islands using the ear-lier models of Sperry Directors brought down an exceptionally large number of Japanese planes. Sperry equipment performed exceptionally well and contributed largely to the resistance put up in that cam-

The latest reports come from Guadalcamal in the Solomon Islands where one 90 mm. battery destroyed a total of 16 enemy air-craft in one month using the Sperry Director and Remote Control System. The assumition expenditure of only 50 to 60 roums for such plane destroyed is far less than any on record for antiaircraft combat and is a tribute to the Sperry men who have contributed to the extreme accuracy of the director and control. This antiaircraft battery had no trouble in engaging with securate fire planes flying at high altitudes and has destroyed planes flying at

It is suggested that you inform your employees that the equipment which they are building is measuring up to the highest standards and is definitely contributing a part in winning the present conflict. Your commany is to be congratulated on the exceptional performance of equipment which it produces.

Sincerely yours,

Mampole

★ The Sperry Director and Remote Gun-control System are but one example of many ordnance instruments developed through the co-operative efforts of the Ordnance Department and Sperry which enable American guns of all types to fire faster and shoot straighter than those of the Axis.

Sperry Gyroscope Company, Inc., Brooklyn, New York Division of Sperry Corporation



He wrote the letter. Major General L. H. Campbell, Jr., is Chief of Ordnance, United States Army. He knows, from recent trips to the fighting fronts, and by regular reports from the field, how Sperry equipment performs under actual battle conditions.



Iron men plus a metal brain. Crack anti-aircraft crew at their posts with a Sperry Director, the metal brain of the ack-ack guns. This amazing instrument calculates range, transmits firing data by which shell fuses are set and guns automatically aimed so that shells explode at the exact moment when they will do the most damage to an enemy

SPERRY

PRECISION ENGINEERS TO AMERICA

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UAL, AA, EAL to Cut Passenger Fares; 7 Lines Ask Dismissal of CAB Order

THREE of the major domestic airlines have informed the Civil Aeronautics Board that, effective June 1, they will reduce their passenger fares.

This information was contained in the answers of United Air Lines, American and Eastern, filed last fortnight, to the Board's order asking 11 of the domestic airlines to show cause why their passenger fares should not be reduced 10%.

Seven of the lines, however, asked Seven of the lines, however, asked the Board to dismiss its order and take no further action at this time. One company, Western Air Lines, has indicated its willingness to effect a 10% cut, provided the Board adjusts its mail rate to a satisfactory figure above the .3 mill per pound-mile now proposed.

United informed the Board that

United informed the Board that United informed the Board that it will file completely new tariffs, to be effective June 1, bringing most local point-to-point fares to approximately 5.2c per passengermile. This will represent a "reduction of existing fares between particular points in varying percentages," the company said, adding that many fares will be less than 5.2c. Average revenue will probably be 5.1c, it said.

American revealed that on or

ably be 5.1c; it said.

American revealed that on or before May 1 it will file tariff changes effecting "substantial reductions" in fares, effective June ate measures to effect certain reductions in its rates and charges

for the transportation of property."

Eastern asserted that it is now engaged in a passenger fare study and "hopes and expects to be able to file with the Board in the near things offsetting June 1, 1942 future, effective June 1, 1943, a scientifically revised and improved tariff reflecting substantial reduc-tions in Eastern's rates . . ."

Disagree on 10%

All of the airlines disagreed with CAB's proposal for the flat 10% cut in fares. If reductions are to

cut in fares. If reductions are to be made, they should be on some other basis, they pointed out.

Eastern, although stating that it is working on a fare reduction, denied that its fares are excessive or that expenses allocated to the Army are out of line.

It is "desirable and profitable, from the standpoint of the public and from the standpoint of the carrier, that Eastern be allowed to continue, without interruption, to continue, without interruption, to earn substantial net profits, in order that it may weather the business storms to which it is exposed in this abnormal period and in order that it may now and in years after the war, meet its obligations . . ." the company said.

Discussing its Army business, EAL revealed that during the

Fares Will Equal Rail Rates, Says United

New passenger fares which United Air Lines proposes to put New passenger tares which United Air Lines proposes to put into effect June 1, provided CAB approves, will generally be no higher than first class train travel costs and in numerous places will be lower, W. A. Patterson, UAL president, said April 7. Some examples of the reductions, which will total \$1,600,000 yearly, follow (present fares in parentheses):

 New York-San Francisco
 \$133.85 (\$149.95)

 New York-Chicago
 38.85 (\$44.95)

 Chicago-San Francisco
 100.00 (\$105.00)
 Seattle-San Diego 56.90

"The proposed reduction in fares is attributable to the sharp war-time increase in the number of passengers per airplane and greater utilization of equipment," Patterson said. "It is also in greater utilization of equipment," Patterson said. "It is also in line with the company's desire to reduce fares as rapidly as con-sistent with sound business practice and as conditions warrant. We plan reducing existing passenger fares between cities in varying percentages to establish, as far as practicable, a uniform rate of fares over our nationwide system."

period June-October, 1942, indirect expenses allocated to the Army were only \$240,287 out of \$1,432,289. Fees and profits from Army contract service were \$64,980 for the same period.

TWA asked that the Board's order TWA asked that the Board's order be vacated and set aside. The company claimed that in estimat-ing future net income CAB picked the five best months of the year. The show cause order was based on "an erroneous forecast of future earnings and an erroneous calcula tion of investment . . ." Also, it said, the order is not in accordance with sec. 1002(d) of the Civil Aeronautics Act, which requires notice and hearing prior to a finding that rates are or will be unjust or unreasonable.

Chicago and Southern, asking that the order be vacated, objected to the conclusion that in view of

its present income, fares are unjust and unreasonable. It also objected to a 10% reduction "while average passenger revenue per revenue passenger mile presently received by eight other lines parties to the proceeding" is higher than C&S.

The company said that it is "just beginning to earn profits that will enable it to accumulate sufficient reserves to be able to compete in the postwar era with other do-mestic common carriers by air . . . the Board has permitted to accumulate large reserves over a number of years as the result of excessive mail rates."

Braniff, asking dismissal, said that further proceedings would be illegal under sec. 1002(d) of the Act. However, without waiving objections to the order, Braniff indicated williampers to receiphlish dicated willingness to reestablish 10% reductions on round trips, air

Florida Legislators Study Airline To

The Florida State Legislature which convened last week in Talhassee, has before it a proposal to legislation to tax personal proper and equipment of airlines in portion to the mileage of their in within the state of Florida.

Recommendations for such a to were drawn up recently at a conference of the State Association County Tax Assessors with Co ernor Holland and other state

At the present time, airlines required to file returns covering The proposed legislation would quire them also to file finantiatements of the value of all gible personal property of the plete system, inside and outside state. Taxes then would be asseson the percentage of total mile lines in Florida, in propo the whole system.

Separate returns also would required, under the proposed for each county in which the lines planes take on or let off passenger and freight, and county taxes would be assessed in proportion to business done in that county.

The assessors proposed a sin assessment of taxes against plines on a mileage basis.

travel plan and government half fares for children.

Delta pointed out that the airlines felt that the Board had "mot grieviously erred" in proposing a blanket 10% reduction and taking such action "during the present chaotic and precarious economic cycle." The company said that to passenger fares "are not only to lowest in the industry but are in many instances less than first class rail fare (including Pullman fare for lower berth accommodations)." National, asking dismissal, as-serted that its fares are not and

will not be excessive.

4.97c Average

Northwest told the Board that with elimination of discounts, its average fare remained substantially lower than any carrier except Delta. Average fare of all carries in the proceeding is 5.37c per mile, while Northwests is 4.97c.

CAB's effort to secure a lower fare structure can only be accor plished by examination of the rates of each carrier individually, NWA said, adding that any attempt at a blanket reduction would be "wholly arbitrary, capricious and contrary

to law."

Pennsylvania-Central's answer pointed out that 67% of its planes were taken over by the Army and that its earning capacity has been greatly reduced. Discounts were discontinued in the belief that such elimination "might be a determent to travel of the vecetion or please." to travel of the vacation or pleasure type, releasing more seats for essential travel," the company said. The only real stable and sure

source of revenue is its passenger fares, a reduction in which would work a hardship on it and weaken its financial stability, PCA added.



TWA Meeting: Spring meeting of traffic managers of the central region of TWA was held in St. Louis last month. Shown here seated, left to right, are L. M. McDonald, Columbus traffic manager; C. E. Bertholomew, system reservations manager; C. E. McCollum, central region traffic manager, Chicago; R. G. Petitte, St. Louis traffic manager. Standing are Virgil Cory, central region public information manager, Chicago; Jack Burlington, Cincinneti traffic manager; Robert Ramey, central region personnel manager, Chicago; Howard Goodrich, Indianapolis traffic manager; Russell Bryant, St. Louis traffic representative; Ed Johnson, Kanses City traffic manager: W. L. Armstrong. Detroit manager; Vernon Gunn. Davton traffic traffic manager; W. L. Armstrong, Detroit manager; Vernon Gunn, Dayton traffic manager; John Bailey, Chicago traffic manager, and George Johnsen, Minneapolis-St. Paul traffic manager.

RE-PRODUCTION LINE 2500 MILES LONG

all hatched from the same nest...

Look at the map of America. Look at Michigan, Ohio or California... at Pennsylvania, Indiana or Tennessee... but wherever you look you'll see some part of the farflung production line which is turning out WACO 9- and 15-place, troop-carrying gliders for the Army Air Corps.

It's a strange sort of production line... not at all like the vast, under-one-roof affairs in the newsreels. There wasn't time for that because the Army wanted gliders— NOW! No, it's a lot of plants in a lot of places... fifteen other aircraft plants plus scores of others which are supplying parts or sub-assemblies. But, today, wherever they are and whatever they were, they're all a part of the same production line...all working from the same blue-prints.

These blue-prints came from the drawing boards of Waco engineers... and from these blue-prints are now emerging the gliders which may one day soon carry the hard hitting air-borne infantry over and behind every fighting front. The news communiques probably will refer to them merely as CG-3A and CG-4A gliders. But we'll always know them as Waco gliders because they'll all be of Waco design...all hatched from the same nest. The Waco Aircraft Company, Troy, Ohio.



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Trans-Atlantic Ferry Pilots Form Company for Postwar Air Operations

TRANS-ATLANTIC ferry pilots, most of whom are flying for the British Air Transport Command, are incorporating Trans-Oceanic Air Lines, and claim that they will have at least 100 trained and qualified trans-oceanic air crews ready to start commercial operations immediately after the war, it was learned last fortnight.

The pilots have formed an organization known as Trans-Oceanic Pilot's Association, and members of this group will be given the first opportunity to become original stockholders in the airline. Stock is being sold for \$1 a share.

Thomas G. Smith, president of the company, early this year sent a memorandum, a copy of which has just been received in Washington, to trans-oceanic pilots, copilots, radio operators and flight engineers, stating in part:

"Trans-Oceanic Air Lines will be incorporated in the State of Delaware, U. S. A., and under its original charter request will be made to engage in any activities whatsoever connected with the aviation industry.

"We will request authority to operate Trans-Oceanic Air Lines on scheduled routes, as well as under government contract to any part of the world for which permission is granted. We will also request authority to operate for the purpose of aircraft manufacture; experimentation and the holding of patents; flight training, radio and navigation schools; and other privileges too numerous to mention. We will also endeavor to organize subsidiary organizations, such as France Trans-Oceanic Air Lines; Brazilian Trans-Oceanic Air Lines; Australian Trans-Oceanic Air Lines, and any others that might become successful, profitable and feasible.

Unlimited Reciprocity

"We hope to operate under government contract immediately after the war is over, and whenever our present duties have been completed, for the purpose of conducting transoceanic schedules to carry diplomatic representatives, other passengers and mail during the reconstruction period, during which time we are hopeful that all Allied Governments will grant unlimited reciprocal arrangements to each other during the time required to build up and create the new World Order, and after this contract has been completed we hope to settle down on regular scheduled operations that have been created and established by our various diplomatic representatives selected from among our stock holders.

"The organization has already been started under a capital set-up of 300,000 Shares of Class "A" voting stock, every share of which is to be owned by our pilots, co-pilots, radio operators, flight engineers and the head of each department, thereby becoming an organization owned outright by those who operate it. These shares are of no par value, and have been issued on the basis of \$1.00 each, based on the U. S. dollar. The purpose is not that of raising money, because under the contracts we hope to be operating no large cash asset is necessary; however, we will be in position to raise the amount of 10 million dollars with no additional money from our original stock holders should the possession of this cash asset become necessary.

"Our greatest asset will be that of 100 trained and qualified transoceanic crews to start operation with immediately, and we will be the only organization of this kind ready to do business overnight when the time comes. In order that all of our personnel will have the desired representation, we have decided that captain pilots and first officer pilots (or second captains) will be eligible to purchase 1000 shares of the Class "A" Voting Stock mentioned above; the radio operators will be allotted 400 shares each; and the remainder will be distributed among the flight engineers; superintendent maintenance; superintendent personnel; radio; communications; auditing; meteorologist, and the heads of other departments required in our complete operations. The stock al-

lotted to each person may be purchased in full at the time pledge is made, or ten percent cash with ten percent to be purchased each month out of future income, because our primary object, as stated above, is not to raise money . . .

"Every civilian Trans-Oceanic Pilot's Association member will be given the first opportunity to be-come the original stock holders, and then enough of those men now engaged in trans-oceanic flying under temporary wartime contracts for various other companies will be given the opportunity of coming in to make up our initial one hundred complete crews. The day we op-erate our first schedule, or start functioning under the contracts mentioned above, the valuation of our organization will be based on what it would have cost to create all this trained personnel, and the 300,000 shares of Class "A" stock which we all hold will become valued in proportion to this total asset without any further contributions on our part; and when you remember that it would cost \$100,000 to ordinarily train each one of these men we thereby can realize an initial valuation in excess of \$30,000,000 without any additional investment, which will be reflected in increased valuation of our original stock.

"The stock certificates you will receive will have printed thereon the provision for designation of beneficiary, and complete condiAir Mail For 25 Years

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The air mail service celebrates its 25th anniversary on May 15, 1943, Chairman Clarence F. Lea (D., Cal.) of the House Interstate and Foreign Commerce Committee reminded the House on introducing a resolution commemorating the day and directing the Secretary of the Treasury to present the Postmaster General with a suitable plaque to mark the occasion.

The initial air mail flight, from New York to Washington, a distance of about 226 miles was completed in 3 hrs. and 20 min., Lea said

tions of purchase, issue and ale The total amount paid into Trans Oceanic Air Lines Stock Purchase and Organizational Fund will be held in trust until Trans-Oceanic Air Lines has been completely organized and incorporated under the laws of Delaware, with the provision not more than twenty percen can be spent for organizational pur-poses, and at the proper time this stock will be exchanged for similar stock in Trans-Oceanic Air Lines Incorporated, the organizational plans for which have been outlined above. In event of the death of any of our stock holders this fund pledges itself to refund or transfer immediately the amount represented by his certificate in accordance with the wishes of his beneficiary. Other conditions too numerous to mention here will also be printed on each certificate, for the benefit of holders thereof, including the privilege of dissolving the fund and refunding stock holders from the funds held in trust at any time decided upon by a majority of the stock holders of record, in proportion to the number of shares held, thereby assuring ourselves of complete control at all



Express Aid: A "Wartime Wall Chart," enabling shippers to have latest air express shipping information at their fingertips, has been issued by Railway Express Agency. Containing data on priorities, plane capacity, weight limits, shipment dimensions and rates, the chart can be utilized as a desk folder or a wall chart. Shown examining the chart are P. H. Cummings, air traffic executive of REA, and V. Dell Aquila, of the public relations department.

Advertising

(Continued from page 40)

ings. As explained above, these estimates are purely tentative proposals by the Board which are subject to a showing by the carrier that they are for any reason inadequate.

We hope that this statement will be helpful in clarifying our position, and therefore in ending any protests which are based on any misunderstanding thereof.

Very truly yours,
L. Welch Pogue,
Chairmen,
Civil Aeronautics Board

Pan Am to Burbank

Pan American's vice president Harold M. Bixby and vice president and chief engineer A. A. Priester are reported to have completed arrangements for transfer of Pan Amil Los-Angeles-Mexico City operations from Grand Central Air Termini. Glendale, to Lockheed Air Termini. Glendale, to Lockheed Air Termini Glendale, to Lockheed Air Termini.

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-American Aviation for April 15, 1943

Irans-Canada Reports New Highs in 1942

Further increases in passenger, press and mail traffic are anticipated in 1943," Trans-Canada Air Lines asserted, in revealing new highs for all of those categories of operations in its report for the calendar year 1942. Surplus of \$494,915.03 was realized

from operating revenues of \$7,337,-318.60, compared with \$302,436.79 from operating revenues of \$5,807,-794.03 in 1941. As a result, surplus account at the end of 1942 totaled

\$1,336,614.97.

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Although air mail pounds carried in 1942, 2,308,812, were 66% higher than the 1,389,614 carried in 1941, revenues from this source did not increase proportionately because of payment of compensation by the mile instead of by the pound. Mail revenue miles flown in 1942 mounted to 7,085,923 against 6,-243,806 in 1941.

Express carried showed a large increase of 109%, 362,837 lbs. in 1942, contrasted with 173,192 in 1941, which, company believes, was due to "military shipments and the needs of war industry."

Revenue passengers carried in 1942 totaled 104,446, an increase of 3% over the 85,154 reported in 1941, and percentage of passenger occupancy in 1942 rose to 74 from 1941's 67.

Of the \$7,337,318.60 total revenues, passenger, which accounted for \$3,-65,452.96, contributed about half, and mail, with \$3,211,921.74 made up 44%. Express amounted to \$173,-100.25, excess baggage \$29,460.29, and incidental services, \$857,463.36.

expenses, which Operating mounted to \$6,842,403.57, and which were 25% over 1941, were caused mainly by aircraft operation, maintenance and depreciation, \$3,917,-\$12.13; by ground facilities operaton, maintenance and depreciation, 11,530,966.18; by incidental services, 1599,512.32, and by traffic and general administration, \$545,517.88.

Trans-Canada's flight equipment,

report said, consisted at the end of 1942 of: 11 Lockheed 14-08 air-craft, one Lockheed 14H aircraft and 12 Lockheed Lodestar aircraft. Six additional Lodestars were acquired during the latter half of the year to handle increase schedules to the Maritime Provinces, and "to replace aircraft requisitioned by the Government."

the Government."

Approximately thirty per cent of its 1,662 employes at the end of 1842 were women, company stated, explaining that women were employed as "chauffeurs, cargo handlers, radio operators, stockkeepers and workers in mechanical shops."

Balance sheet as of Dec. 31, 1942, showed total assets as \$7,365,765.70, and current assets of \$2,950,064.41, including cash, \$688,451.16. Current including cash, \$688,451.16. Current liabilities were \$996,289.13, including accounts payable, \$685,459.41.

ATA Favors New Insurance Plan for U.S. Air Carriers

The handling of airline insur-The handling of airline insur-ance by the creation of two stock insurance companies with capital and surplus of \$3,000,000, 60% of which would be furnished by in-surance companies and 40% by the airlines, has been recommended by the Air Transport Association.

In a comprehensive report In a comprehensive report on the entire insurance situation, the ATA urged adoption of this plan, known as the Airline Company Plan, and recommended that "a committee be appointed by the airlines to work on the details of the proposal with a committee representing the interested insurance companies, so that the plan may be put into effect on or before Jan. 1, 1944."

One company, with capital of \$1,250,000 and surplus of \$750,000, would write various lines of cas-

would write various lines of casualty insurance, while the other company, with capital of \$625,000 and surplus of \$375,000, would handle fire insurance. Insurance companies would furnish \$1,-800,000, the airlines \$1,200,000.

"The Airline Insurance Companies will issue preferred and common stock," ATA said. "The preferred stock will be a 5% cumulative voting preferred stock, callable with a bonus of 10% at the expiration of a period of 15 years, which preferred stock will be issued to the insurance companies. The to the insurance companies. The common stock will be issued to the airlines. Representation on the Board of Directors of each Airline Insurance Company will be in proportion to investment made, 60% sponsoring insurance companies and 40% airline.

"The insurance company sponsors will receive 5% on their invest-

ment. This will be paid to them in the form of dividends on the prethe form of dividends on the pre-ferred stock. All other profits will belong to the airlines. These prof-its may be paid out to the airlines as dividends or held in the com-pany to establish reserves and in-crease financial stability, as the directors may decide. The Airline Insurance Companies will issue a uniform type of policy worked out uniform type of policy worked out in cooperation with the airlines for whatever type of risk is being underwritten. Risks assumed by the Airline Insurance Companies will be reinsured by the sponsoring insurance companies which in turn will reinsure a portion of the

"There is no provision in the plan for an assessment in the event of loss and it is contemplated that or loss and it is contemplated that with experience as good as it has been in the past, a catastrophe reserve can be established. In the event heavy losses occur before this should take place, these would be met jointly by the airlines and the insurance carriers.

"The Airline Insurance Companies would not have a large staff. Such technical insurance person-nel as would be required would be furnished by the insurance com-panies and the airlines. All in-surance services, such as claim and legal services, loss prevention services, engineering, inspection, etc., would be performed at cost by the insurance companies sponsoring the plan. It is estimated that the cost of performing all services plus taxes would amount to approximately 20% of premiums earned.

"The plan contemplates a continuous operation and it has no time limitation."

Honolulu, U.S. Route Sought by Hawaiian

A 2,591-mile route from Honolulu to Los Angeles is being sought by Hawaiian Airlines in an applica-tion fleed with the Civil Aeronautics Board.

tics Board.

The company has long been interested in establishing such service, and decided to file application in its own name after proposal for a joint airline (Pan American Airways, Matson Navigation Co., and Inter-Island Steam Navigation, which owns 88% of Hawaiian stock) was denied by the Board.

Hawaiian would use four-en-

Hawaiian would use four-engined landplanes in the operation, but pointed out that because of present war conditions it is impossible to foretell the exact type of plane which will be best suited for the service.

Not less than three round trips weekly would be flown at the start, increasing to daily within six months after operations were started, it said.

"Applicant believes that with the further development of trade routes in the Pacific which will follow the war, Honolulu's geographical posi-tion will give it further impor-tance, particularly in respect to airline traffic," the application stated.

Hawaiian added that it has reason to believe that Matson will seek air routes from the Pacific coast to New Zealand and Australia.

total of \$2,000,000 will be needed for planes and equipment it explained, adding that it contemplates lower passenger, freight and mail rates than presently charged by Pan American.

Sampaio Heads Panair do Brasil

Paul Sampaio has assumed the presidency of Panair do Brasil, subsidiary of Pan American Airways, succeeding Dr. Cauby de Araujo, who resigned recently.

Dr. Araujo was acquitted early in March by a Brazilian military court of charges of treason. Four others accused with him received 20 years each. Dr. Araujo's resignation fol-lowed his acquittal. Sampaio had been acting as president of the air-line during the trial and assumed full charge following the resignation.

The New York Times reported from Rio de Janeiro that "Dr. Arau-jo's acquittal ends what apparently jo's acquittal ends what apparently was a Nazi frame-up intended to picture the United States as seeking to obtain military data about Brazil through Araujo, who was president of the air company financed by Americans and also acted as representative of Pan American Airways in Brazil."

Swedish Airline Organized for Overseas Routes

Svensk Interkontinental Lufttrafik, a new Swedish airline which develop postwar intercontinental routes, particularly those to the United States, is being backed by Swedish shipping companies, industries and banks, according to wireless reports from Sweden.

wireless reports from Sweden.

The new company, known as SILA, will have a guaranteed minimum capital of approximately \$7,500,000, it was said.

Agreement has been reached, it was added, between SILA and the government-owned Aero Transport, which was organized in 1924. The latter will put its technical organization at the disposal of SILA. SILA.

WESTERN AIR LINES, Inc., Los Angeles, Cal., has announced net profit for 1942 of \$693,703, equal to \$1.69 each on 409,954 shares, compared with \$5.981, or one cent, in 1941.

AAA Completes 2½ Million Miles

Completion of 2,500,000 miles o service, 92% of scheduled operations, and performance of 148,605 pick-ups and deliveries since it establishment in 1939 have beer announced by All American Aviation, Inc., Wilmington, Del.

Postal revenues are now "more than paying" the cost of its airmail service, company said, in reporting it handled 32,773 pounds o sir mail in February, which wa 93.4% more than February, 1941.

Aircraft Accidents

Of the 4,252 non-scheduled carrie aircraft accidents reported during the calendar year 1941, 431 occurred the calendar year 1941, 431 occurree in aircraft aged 10 years or older Safety Bureau of the Civil Aero nautics Board has disclosed in A Report of Aircraft Aged 10 Year or More Involved in Accidents In volving Structural or Powerplan Failure, Calendar Year 1941, recently propulated. announced.

American Aviation for April 15, 1943—

Plane With Highway Trailer As Detachable Fuselage Seen

A revolutionary multi-purpose aircraft design equally efficient in commercial or war tarnsport, utilizing a detachable "fuselage" which can be hauled to or from an airport by an ordinary truck tractor, is announced by Harvey M. Deysher, pioneer aeronautical designer and inventor, and his collaborator, Harold K. Hubbs, construction engineer.

The detachable unit, resembling a standard highway trailer, can be loaded at a plant or military base, towed by truck to an airport, attached to a waiting plane, flown to another airport, and the operation reversed. No time is lost in airport loading or unloading. Alternate designs call for twin-boom aircraft which can haul two trailer or fuselage units at once. Furthermore, the inventor claims that his plane can fly satisfactorily without the unit.

In addition to using the carrier as a shipping container, the operator can capitalize on ability of the plane to fly empty by transporting any number of such units in a one-way stream to an area demanding an emergency hospital, mess halls, emergency light and power stations, machine and repair shops, or signal and transmitting equipment. Thus a hospital, with emergency operating

equipment and cots, could be set up in a few hours, hundreds of miles distant, and could be removed as quickly.

According to Rep. Charles A. Wolverton, (R., N. J.), counsel for the inventor, patent applications have been filed, considerable engineering has been completed, and the project described as sound by aeronautical experts.

Besides eliminating loading and unloading at airports, the proposed plane would provide transportation beyond the landing field, alleviate storage problems at the field or other destination, and permit 100% salvage of such rooms when they were no longer required in an area.

With some adjustment, the units could be built for bomb-carrying, it is claimed.

"In all present planes," Hubbs told American Aviation, "the passenger or cargo compartments are built into the main structure and are necessary to permit the plane to operate. They can only function in their special uses at an airport. Therefore, their use cannot be extended to any locality that lacks landing facilities, and they must be delayed at the base until the full intended duties to which they have been assigned have been completed.

"Due to shortage of structural materials, it has become apparent that we will have to design planes which can be used for more than one purpose, and they must be kept flying instead of being tied up at airports until they are loaded or unloaded, or until they have fulfilled their other assignments.

"Our planes have been designed so that they will be inherently stable under a comparatively large range of uses and varying load conditions. They provide an aerodynamically efficient design in which the main wing, tail surfaces, power plants, landing gear, crew enclosures, surface controls, etc., operate as a complete flying unit without any load-carrying compartment."

Hubbs expressed the belief that due to the interchangeability of various types of compartments, uses will be virtually unlimited. Feeder line operators could convert a plane from passenger to cargo use in a few minutes by switching units.

The main structure is typical of standard aircraft except for supporting and locking devices, which are built integrally within the air frame to provide support and locking for the removable compartment. The compartments, which may be built in various designs and streamlined into the contours of the main part of the plane, are provided with wheels which can be lowered or retracted. Front wheels are swiveled. Standard trailer couplings are provided at

When specially designed unit with their equipment to prove hospitalization, for example, as towed by jeep or truck to the desired location, they may be a ranged into any plan form.

The inventors say the center of gravity of the compartment is in direct line with the former end of the flying unit—if loading in been correct—so there is no change in the original horizontal c. g.

In addition to side doors, to units may have rear loading door which can be opened to the full width, easing loading.

Any number of types of conpartments equipped to fulfill various requirements can be built but only one type of flying unit is needed to carry them.

"It is therefore evident that hy adopting the same methods of multiple use of flying units as the railroads have adopted for the use of their locomotives, we will be able to increase the useful duty of our present output of airplane engines and load-carrying planes from three to four times," Hubbs claims. "The time required for loading and unloading one-purpose planes of today is the cause of many handicaps to our armed forces and the main reason we have continued shortage of aircraft. The flying unit of the multi-purpose plane can keep on performing many duties while the compartments are being loaded."

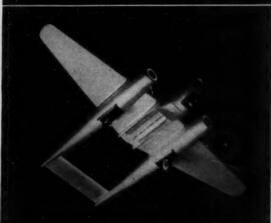
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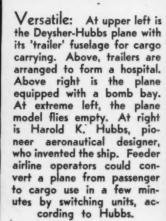
(Turn to page 54)















Equipment for Combat

To see in the dark and to see at a greater distance ... to push back the clouds and fogs of ignorance has been since the beginning of time one of man's greatest aspirations.

Spurred by war, the scientific laboratories of the nation are making tremendous strides toward meeting this aspiration.

In every branch of the services our fighting men are now armed with electrical devices which enable them to pierce the black of night, the depths of the ocean and the clouded skies. Already much of our success over our enemies on land, sea and in the air has been achieved through the use of these "electrical cats."

The peacetime possibilities of these devices which pierce the darkness are limitless.

In the very forefront in the design and manufacture of these developments stand Western Electric and its engineering organization, the Bell Telephone Laboratories.





Canada Warns All Recent Airline Concessions To End With Armistice

WHILE leaning toward collaboration and cooperation, the Canadian government will demand a place in post-war international air transportation "consistent with Canada's geographical position and progress in aviation," it was disclosed last fortnight in a clear-cut statement of post war aviation policy.

The course this policy might take also was indicated when the Canadian plans were outlined in the House of Commons in Ottawa by Prime Minister W. L. Mackenzie King, with the declaration:

"All concession and privileges that have been granted by Canada to other countries as part of the war effort will terminate at the end of the war or almost immediately thereafter."

Significant domestic aviation policy also was discussed by the Prime Minister, including the government's intention to keep Trans-Canada Air lines as the sole Can-adian agency operating in international air service. For the duration, he added, only temporary arrangements will be made in questions of international air transport, leaving Canada uncommitted to any specific international agreeafter the war. Fact that Canadian Pacific Airlines was ignored in this connection aroused considerable comment.

Symington Agrees

Subsequently H. J. Symington, president of Trans-Canada, in an appearance before the House of Commons, reflected similar views on post war transport control and defended the Trans-Canada monopon international business. Significantly, reference also was made to his annual report to TCA stockholders in which he said:

'Canada occupies an important position in the future of the air world. The shortest routes between North America and Europe and Asia cross the Dominion, and weather conditions are stable. Canada's national air line is destined to play an important part in world aviation."

Both the Prime Minister and Symington emphasized that while Trans-Canada Air Lines may be Canada's sole representative in posttrans-oceanic service, there will be opportunity for private aviation "in other respects" in Can-ada. It is well known that the Canadian Pacific interests have ambitious plans for trans-Pacific oper-

ations after the war.

King made it clear that the government is studying carefully "the

problem which will have to be dealt with in the negotiations" after the Armistice, and said that the future of international aviation will be determined largely by negotiations between the United Nations.

Both leaders' views were backed up by Hon. C. D. Howe, Munitions Minister, who said in reference to land service that there was no intention of extending TCA service to branch lines. Airline operation is coming to be considered "a natural monopoly" which is "not susceptible to competition," he said. Symington told the House of Commons: "Any competition between two companies of any one country would be fatal. There will be enough competition between countries. The cubic content of the planes needed and their cost will not permit of competition. The companies could not operate without a liberal mail rate."

In his annual report the TCA

president described some of the recent advances in Canadian transport and outlined a shorter route proposed for trans-continental serv-ice which will be over Lake Huron and Superior to Winnipeg, and thence to points of exit in western Canada and the Yukon territory. He said the company is under-taking research in connection with plans for oceanic and international flying, but details must await developments.

Under treaty arrangements be-tween the government of Canada and the Newfoundland Commission and the Newfoundiand Commission of Government, service between Moncton, N. B., Sydney, N. S., and St. John's, Newfoundland, was inaugurated by TCA on May 1, 1942, on a basis of one round trip a day. It operated virtually at capacity and a second daily trip was added in Newsber in November.

Cooperation of TCA with British

Overseas Airways Corp. in the North Atlantic transport operation was considerably extended during the year, he added. At Montreal where approximately 200 mechanics are employed, maintenance and overhaul work on the overseas air transports is performed by TCA. transports is performed by TCA. Symington's report traced the five-year growth of TCA and predicted continuing in continuing increases.

Excerpts from Prime Minister

King's speech to Commons on post-

King's speech to Commons on partial war policy follow:

"The problems of international air transport are, of course, immense and cannot be solved by one country. We are determined, however, that our influence on the course of events will be in the direction of international cooperation and collaboration. The Canton of the complete complete rection of internation. I adian government is in complete agreement with the United King-dom government that some form of dom government that some form of international collaboration will be essential if the air is to be developed in the interests of mankind as a whole, trade served, international understanding fostered and international security gained.

Gives Policy

"The policy of the Canadian government on air transport may be summed up as follows:

"The government good reason for changing its policy that Trans-Canada Air Lines is the sole Canadian agency which may operate international air services. (b) "Within Canada, Trans-Can-

ada Air Lines will continue to operate the trans-continental system, and such other services of a mainline character as may from time to time to time to time be designated by the government. Competition between air services over the same route will not be permitted whether between a publicly-owned service and a privately-owned service or between

two privately-owned services. There will remain a large the development of air tra which private Canadian may participate, and, wi venting duplication of ser government will continue courage private companies velop services as traffic por ay indicate.
(c) "In order to prepare t

coming international on air transport, the govern studying carefully the which will have to be deale

the negotiations.
(d) "The Canadian ge strongly favors a policy of tional collaboration and tion in air transport and is to support in internation tiations whatever internat transport policy can be strated as being best calcu serve not only the immeditional interests of Canada our over-riding interest in establishment of an interest order which will prevent the

break of another world war.

"The future of international transport will be determined by negotiation or transport with the determination of the determinati tween the governments United Nations. The policy government at the moment ing with all questions which international air transport make temporary array leaving the issues open so the ada may be able to supporternational negotiations take place, whatever policy best at that time. The go however, intends to press v for a place in internal transportation consistent wi ada's geographical pos

"During the war a remexpansion of Canadian aviati taken place—in the training and ground personnel, in the struction of airports and ar gation facilities, in the manuf of aircraft, and in the extens air transport services. De be revealed at the present therefore its magnitude is a erally appreciated. The Ca government is aware of the ance of the developments is tion now in progress and that the people of Canad benefit from them to the

possible extent.
"The expansion of air to services during the period war has been confined to quirements. Canada has quirements. trated on the development British Commonwealth Air ing Plan and on combat fly a result, by agreement allies, military air transport Northwest has largely been taken by the United States and on the Northeast Ferry by the Ferry Commands. Wh necessities permit and equipment can be obtain government will encourage ther development within C air transport services, ment and form part of an date transportation system ada by land, water and air. port by air requires close vision on the part of the (Turn to page 52)

Moving a Clipper: A Diesel-engined Caterpillar tractor is shown about to haul one of Pan American Airways' Clippers from its anchorage to the hangar at North Beach marine terminal, New York. To haul. the ship onto the ramp, a rectangular frame of heavy timbers supporting a V-shaped cradle is placed beneath the hull. Once ashore, a four-wheeled railroad truck in the center of the crib is dropped to engage standard railroad tracks laid out between water line and hangar, and the tractor proceeds with its job.

Training Casts its SHADOW...

JACOBS AIRCRAFT

This shadow is becoming a familiar one over Nazi-held Europe, and will become increasingly familiar.

The devastating accuracy that accompanies this shadow was born and developed on American Training Fields, where the Army Air Forces Training Command taught the pilots and crews to concentrate on the accomplishment of their mission with precision.

Complete reliability of Training Plane engines is essential for such concentration.

The majority of the twin-engined Training Planes, in which the Bomber Pilots are schooled, are powered by Jacobs. This reliable power enables them to concentrate completely on the precise bombing technique, without a thought to their engines. This same reliable power will also allow thousands of Americans to carry their families and friends through the air with complete security after Victory is won.

JACOBS AIRCRAFT ENGINE CO.



AA Nets \$3,851,714 Despite Fewer Ships, Mail Pay Cut

Notwithstanding reductions in its commercial operating fleet, (to 43 twenty-one passenger planes since June 1, 1942), fewer revenue miles flown and smaller mail rate, American Airlines, Inc., Jackson Heights, L. I., N. Y. on operations in 1942 realized net profit after Federal income taxes of \$3,851,714.38, equal to \$6.33 a share, common.

Profit was realized on operating revenues of \$26,982,014, and includes \$834,845.75 (net after applicable Federal taxes) from equipment sold at the direction of the Government. In 1941, net profit was \$2,473,160.48, or \$3.93, on operating revenues of \$26,298,778.

Company believes it "significant that although during 1942 the revenue plane miles flown decreased by 13.3%, revenue passenger miles decreased by only 1.73% and air mail pound miles actually increased by 54.9% while air express pound miles increased by 120.2%. (which) indicates the greater utilization of our planes, facilities and personnel."

74.2% Load Factor

Significant indication of this utilization was the passenger load factor, which was 74.2% for the year, "highest ever achieved in the history of the company." Revenue miles flown were down to 27,828,321, from 1941's 32,098,663, but passenger seat miles flown were down to only 542,335,606 from 590,172,096 in 1941. Air express ton miles in 1942 were 2,992,486, against 1,359,267 in 1941.

Of operating revenues, passengers accounted for \$21,512,980, 2.8% over the 1941 figure; mail, which was \$3,266,825, down 23.4% from 1941, and only 12.11% of total revenue, compared with the previous year, when air mail was 16.24% of total revenue. But revenue from express,

\$1,720,036, was 127% over 1941. Other revenue accounted for \$482,-173.

Operating expenses increased from 70.1c per airplane mile in 1941 to 77.5c in 1942, but, while "the average revenue weight load of passengers, mail and express increased by approximately 22% in 1942, the operating cost per mile increased only 10.6%."

Of total operating expenses of \$21,368,632.08, flying operations required \$5,019,232.98; ground operations, \$4,088,567.76; maintenance and repairs, \$3,309,446.04; traffic and sales, \$2,603,087.28 and general and administrative, \$1,237,805.80.

Balance sheet as of Dec. 31, 1942 reveals total assets of \$27,991,391.63 and current assets of \$22,285,513.13, including cash on hand and deposits, \$7,444,277.54 and accounts receivable, \$10,663,802.64. Current liabilities are \$9,742,743.72 including accounts payable, \$1.153,362.41. Earned surplus is \$5,293,781.08.

Asset position has improved over the \$23,968,410.98 reported at the end of 1941. Ratio between current assets and current liabilities stood in the "strong" position of 2.3 to 1.

At the end of the year officers of the company were: A. N. Kemp, president; O. M. Mosier, Charles A. Rheinstrom, William Littlewood, Hugh L. Smith, Hollis Thompson and A. Culbert, vice presidents; H. K. Rulison, treasurer; C. W. Jacob, secretary, and P. G. Larie and V. J. Long, assistant secretary-treasurer.

Directors were Harold T. Ames, H. E. Benedict, James Bruce, Edward H. Butler, Amon G. Carter, Ralph S. Damon, Silliman Evans, John W. Farley, Thomas S. Hammond, Chandler Hovey, A. N. Kemp, Walter S. McLucas, O. M. Mosier, Edgar M. Queeny and Charles A. Rheinstrom.



More than one responsible industry official is firmly convinced the revisions should be made in the practice of covering airliners' window during landings and takeoffs and at certain other periods. . . It agreed that "blackouts" are necessary over war plants and at airnew where there is much military activity. . . . However, at many other that it seems to be unnecessary. . . An airline executive told us that Canada which originated the practice, is abandoning it. . . .

On a recent trip via airline to the Midwest we were more than ever impressed with the high standard of service . . . Airline employes were cheerful and courteous, going out of their way to make the trip a pleasure . . . Unable to secure return space, we rode the train and found that rail employes still act as though they're doing the passenger a favor by transporting him . . One improvement we noticed in rail service, however, was ticketing, which seems to have been speeded up considerably. . . .

Doing a swell job at the Civil Aeronautics Board is Catherine Williams recently named chief of the docket section. . . This section is the "public reference room" where applications and other documents are available for general inspection. . . The new chief has been in the business since aviation was under the Interstate Commerce Commission. . . She knows her stuff. . .

As noted elsewhere in this issue, the passenger fare situation is far from solved . . . Although two lines have agreed to reduce rates there is no agreement among the others . . . Our prediction still is that rates will be reduced . . . CAB may change its mind about insisting on a flat 10% cut, however . . .

The first issue of American Aviation Associates' Universal Airline Schedules drew plenty of favorable comment at a cocktail party gives by AAA for the Air Traffic Conference in Chicago on Mar. 29. . . . H.D. Whitney, formerly of United Air Lines and now managing editor of UAS, deserves a pat on the back for a job well done. . . .

In addition to coming to life on the feeder situation, the Civil Aeronautics Board evidently has air cargo under consideration also . . . One of our spies tells us that a comprehensive report on air cargo has been prepared by the Board's research and analysis division . . . We hope to report on this later . . .

division . . . We hope to report on this later . . .

CAB's decision to investigate the feeder-pickup situation came as a welcome surprise to many in the industry . . . One Board official deserving credit for starting the investigation is C. Edward Leasure, chief of formal proceedings . . It is significant that the Board has invited manufacturers to participate in the discussions . . . Some manufacturers have been puzzling as to what type of equipment will be needed for feeder service, and it is to be hoped that they will get some ideas from the investigation . . If extensive feeder operations are instituted after the war, it is probable that there will be an effort to keep their accounts and statistics separate from main-line operations . . . That is, separate appropriations would be sought, a separate type of certificate would be issued, etc. . . . Reason for this is that the established service will probably be almost entirely self-sustaining, whereas some Board members feel that feeders will not reach this stage for some time . . .

Postmaster General Frank C. Walker's statement on the west coast to the effect that it might become necessary to bar air mail completely to the general public, or to limit private air mail to a 500 mile radius caused no little surprise . . . The statement was made without consultation with air mail authorities . . . Some people guess that the PMG's purpose might have been to arouse public opinion to the point where it will be possible to pry loose a few more planes for air mail service . . . Fact remains, however, that he should have been awake a long time ago . . . E. B.

At 'American Aviation's' Party: Among those attending the cocktail party given by American Aviation Associates at the Blackstone Hotel, Chicago, on Mar. 29 to introduce Air Traffic Conference members to the new publication, 'Universal Airline Schedules,' were, left to right, James Farrel, Eastern Air Lines' district traffic manager, Chicago; H. S. Parker, Jr., vice president of National; Stanley Webber, assistant to the vice president and general manager of Delta; Walter Sternberg, assistant to the executive vice president of Eastern; Paul Brattain, EAL executive vice president, and W. A. Patterson, president of United.

WAL Opens Office

William Kerrigan has been named manager and Hugh W. Coburn director of passenger service at Western Air Lines' recently opened airport ticket office, passenger service and reservations department at Salt Lake City Municipal Airport, which services were formerly handled by United Air Lines employes. Of the 22 employes, 18 are women who completed four months' training in Los Angeles, company reports.

New Route to Open

Pan American Airways announced March 30 that its recently awarded New Orleans-Guatemals Cuty route will be opened within 30 days.

HERE'S PROOF OF THE
SUPERIOR PERFORMANCE OF

Gulf Cutting Oils

A FEW OF THE HUNDREDS
OF SIMILAR CASES IN GULF'S
FILES

Gun Barrels... Consulted by a large ordnance plant on the possibility of obtaining greater production in the reaming of cartridge chambers in 1.1 gun barrels, a Gulf Lubrication Service Engineer recommended Gulf Electro Cutting Oil A. Result: production of reamed barrels increased 1500%—rejections reduced 50%.

*

37 Mm. Shot . . . A manufacture of 37 mm. shot increased production 30%, reduced tool regrinds and down time for machine maintenance 50%, reduced cutting oil consumption 50%, and obtained better finishes on the work through the use of Gulf L. S. Cutting Base B blended with Gulf Cut-Aid.

*

Torpedo Gears... By using the cutting oil recommended by a Gulf Lubrication Service Engineer, a manufacturer of torpedo parts increased output 41%, improved finish, and reduced rejects in cutting Monel metal gear blanks. Tunk Tread Pins...A manufacturer of tank tread pins increased production per tool dressing from 85 pieces to 600 pieces by using Gulf Lasupar Cutting Oil C.



Artillery Recoil Cylinders . . . By using Gulf L. S. Cutting Base A, a large ordnance plant increased production 30% and increased tool life 300% in machining operations on hardened nickel chrome steel forgings for artillery recoil cylinders.



Bomb Striker Nuts... Consulted by a manufacturer of steel striker nuts for bombs on the problem of 100% rejection of production due to torn threads in a tapping operation, a Gulf Lubrication Service Engineer recommended Gulf Lasupar Cutting Oil A and a suitable level on the end of the tap. Result: rejections entirely eliminated, production greatly increased.



As a result of proven performance, over a thousand plants with difficult machining operations have adopted Gulf Cutting Oils during the past six months. Here's the record of improved machining practice in these plants: Production increased as much as 300%, tool life increased as much as 2000%, and marked improvements in finish. Write or 'phone your nearest Gulf office today for effective help on *your* machining problems.

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Please send me, without obligation, a copy of the new booklet, "Gulf Cutting Oils," which includes a 24-page Machining Guide.

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States' Aviation Legislation **Showing Marked Increase**

DEMONSTRATING an alertness to trends in aviation and a planning program to prepare for current and future developments, at least seven states have recently put new statutes on their books dealing with specific problems raised by expansion or prospective expansion of the industry within their borders.

Most of the new state legislation deals with the development of air-ports and other landing facilities. significant trend is evident in he action of some states in "getting n line" for participation with the Federal government in the flight strip program which promises to be continuing undertaking after the

Clarification of aviation gasoline axes, authorization of levies for naintenance of airports, and proinance construction are among the natters covered in some states.

Among the specific acts adopted by legislatures meeting since the irst of the year are the following: Indiana: Approved an act authorzing any city or county to acquire, construct, develop, improve, equip or extend airports or property to be used for aviation purposes. Funds nay be provided by direct levy of axes or issues of general obliga-ion bonds. Two or more cities are uthorized to cooperate in any air-ort project desired by them. Under this law cities or counties

nay operate their airports or lease hem to others. They also may ease land for aviation purposes for periods not exceeding five years, and may improve it for landing and aking off provided the cost of leasng, improving and maintenance are said out of current funds.

Gas Tax Refund

The new Indiana law also provides or a refund of gasoline taxes on all gasoline purchased for use in urplanes. Airport operators who ell motor fuel as distributors or tealers may make taxfree sales of tasoline delivered into the tanks of aircraft, upon compliance with ertain provisions.

Minnesota: Passed a law legalizng and validating all bonds pre-iously issued by cities of the fourth lass for purchase of land for muniipal airports, in cases where three-ourths of the voters voting in a pecial bond election approved the suance. Under the act, such bonds re made binding general obliga-ions of the respective cities, but he act does not apply to any pend-ng proceedings where validity of he action is in question.

New Mexico: Authorized the State

lighway Commission to enter into greements with the Federal government for the construction and

maintenance of flight strips adjacent to public highways, or the construction and maintenance of access roads to flight strips, airports, bombing ranges, federal reservations, etc.

The commission also was authorized to purchase lands necessary for such projects, and to construct, re-construct or maintain flight strips or access roads.

In Washington a spokesman for the Public Roads Administration said that a number of states were authorize their highway departments to cooperate with the fied-eral government in the flight strip program, because existing laws do not permit the states to enter into such agreements. Most states, how-ever, have been able to proceed on the flight strip program without special legislation.

Flight Strips

Wyoming: Approved a law similar to that adopted by New Mexico to authorize participation with the federal government in flight strip and airport construction. It further specifically authorized the State Highway Department, in cooperation with the Public Roads Administration, to use money from the state highway fund for the payment of the state's share of preliminary engineering and construction engineering costs.

Kansas: The legislature in effect

authorized the swapping of rail-road shops for an airport, and at the same time gave second class cities power to levy an annual tax for the support, maintenance and operation of airports and fields.

Authority was granted the cities "for the purpose of acquiring a site for a municipal airport and aviation field and equipping, improving, op-erating and maintaining same, expend funds received from a rail-road company incident to releasing company from its obligations to maintain shops and for a quit claim deed to certain real estate."

New Jersey: The right of eminent domain is granted to any municipality now constructing an airport on lands either within or without its limits, under a contract with a Federal agency, to obtain additional lands for airport expansion. This is stipulated where airports are used, or are to be used by the armed forces of the United States. Land can be taken without compensation in advance, and proceedings are prescribed for the fixing of compensation to be paid to owners.

North Dakota: In a bill restricting tax levies which may be made by a park district, the legislature speci-fied that a tax of two mills on the dollar, as provided in 1941 laws, any park district owning and operating an airport may levy, shall not be changed.

number of state legislatures are A number of state legislatures are still in session and others will meet later in the year. Observers note a sizeable increase in the volume and

scope of aviation legislation in the states, although the bulk of it deals with specific issues within the respective states.

Application of state taxes to avia-Application of state taxes to aviation is one of the major problems coming to the front in the legislative assemblies. The taxation chapter of the Lea Bill (H. R. 1012) soon to be called up in Congress is described as an effort to prevent dual taxation. It has been opposed by a number of the states on the grounds that it invades state regulatory rights. latory rights.

Zoning regulations in the Federal legislation also are being closely

scrutinized.

A recent opinion by the attorney general of Alabama contributes to this line of thinking. The attorney general held that any municipality in the state, regardless of population, may zone territory within onequarter of a mile of airports owned by such municipalities and lying without the corporate limits thereof. His opinion was written in response to an inquiry from E. W. Stanford, state director of the Alabama Aviation Commission.

Canada Warns

(Continued from page 48)

ment. The Board of Transport Commissioners will be responsible for regulating traffic matters and for allocating new routes apart from the lines brought under the Trans-Canada Air Lines Act. The Civil Aviation Branch of the Department of Transport will be responsible for the administration of traffic and safety regulations and for the physical development of airways.

"The government intends to plan a number of routes suitable for post war air services and offering traffic possibilities that will war-rant a service. These routes will rant a service. These routes will make use of airdromes that have been developed for war purposes. The Government will also continue to develop airports and other facilities for weather reporting and com-munications, which will contribute to the expansion of Canadian air

transport.
"While the employment in a peace-time air transport service of all the air and ground personnel of the Royal Canadian Air Force and all the men and women now employed in the aircraft industry in Canada will be impossible, a con-siderable number will be absorbed into the peace-time aviation in-dustry. To this end the govern-ment has undertaken the design of distinctive Canadian types of transport aircraft suitable for post-war industry, in the hope that, when the war ends, a part at least of the equipment for Canadian air transport will be furnished by Canadian

factories. "Trans-Canada Air Lines continue to be the instrument of the government in maintaining the 10% Down, Etc.

Vought-Sikorsky Division of United Aircraft Aircraft Corp., East Hartford, Conn. has already received some advance cash payments for the Sikorsky helicopter, Eugene E. Wilson, president of United said in a recent address. One aviation old-time was said to have asked for a priority when helicopters would be available.

Northeast

(Continued from page 1)

operate in this service helicopte or such other aircraft as may capable of landing on the room post offices or railroad stations on areas as small as 100 ft. squa near or adjacent to the post office and railroad stations involved near to or within the central f the communities served."

It is understood that Samuel

Solomon, Northeast president other company officials recently tended a demonstration of the S orsky helicopter, and that this chine is under consideration for

proposed service.

"We hope the filing of this ap cation will result in many sin applications from other parts of the United States," Solomon said. "Much of the helicopter's development is necessarily a military secret but I have seen the results of I Sikorsky's creative genius and agree with him completely as to adaptability of this great inven the peaceful uses to which shall put it if our application granted."

As helicopter service progresses, Northeast plans to request authority to carry passengers.

Seek Air Route

Abe B. Cohen and Wilbert G. Burnette, of Lynchburg, Va., have filed application in the name of Virginia Central Airlines for several air routes from the vicinity of New York through the south-east to Atlanta and Mobile. Company, which owns no aircraft, will be capitalized at \$1,000,000, with \$250,000 cash.

trans-continental air transport service and in operating services across international boundary lines and outside Canada. The government will encourage the company to obtain modern aircraft which will keep present services up to mod-ern standards and will expand these services to the fullest extent that post-war conditions permit. The development of supplementary routes will continue to be left to private enterprise, unless considerations of public interest indicate that certain of these routes should be designated by the Government as routes to be operated by T.C.A. The operations of T. C. A. will continue to be limited to important services of a mainline character. services of a mainline character, where the volume of passenger and mail traffic would justify it."



Whatever model you choose . . . get FRANKLIN power



You will be offered a wide choice of private planes in the post-war world, ranging perhaps from helicopters to fold-

ing-wing, roadable models to types as yet undreamed of. You'll pick the one that best suits

your needs, of course. But be sure your plane is powered by a smooth, economical Franklin engine. That way you'll get more miles of trouble-free, carefree flight. For forty-three years, Franklin engineers have been building fine air-cooled engines, and incomparably finer Franklins will be ready for the plane you fly after the war.

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Discuss AA Policies: General policies and objectives of American Airlines for 1943 were discussed by regional traffic managers and the supervisory personnel of the general traffic office at a meeting held in New York recently. Back row, left to right, are Jack Tompkins, southern traffic manager; D. Hungerford, manager of schedules and tariffs; A. R. Bone, western traffic manager; John Bartol, assistant to the general manager; L. W. King, central traffic manager; Charles A. Boillod, director of foreign travel; Buell A. Patterson, driector of publicity. Middle row, W. N. Bump, New England traffic manager; Herbert J. Lyall, acting eastern traffic manager; M. D. Miller, manager of air mail, express and freight; C. A. Clarke, assistant to the general manager; T. P. Gould, supervisor of reservations and ticket offices; Ralph S. Maugham, assistant to the vice president-traffic. Seated are Charles A. Rheinstrom, vice president-traffic, and Willis G. Lipscomb, general traffic manager. traffic manager.

'Trailer' Plane

(Continued from page 46)

porting these detachable compart-ments, the inventors say, has been used and tested for years by railroads, truck lines, movable cranes in factories, and in boat docking. Tracks and side rollers are utilized to slide the tapered-bowed units into the plane, where they are at-tached securely, much in the way a boat is docked.

Obviously, multi-purpose planes of this type could be converted from war to commercial use in a from war to commercial use in a matter of hours or minutes, while planes which had carried the bomb-carrying units would need to have alteration of only the bomb release cables, which could be done at any field.

Fuel tanks are located outboard of the engines, no fuel lines entering or contacting the cargo section, although on long flights emergency tanks could be installed in it.

The control compartment would be similar to the standard plane. Access could be arranged to the compartment if necessary. R. H. W.

Huebner With CAB

Dr. S. Stephen Huebner, a member of the War Dept's. insurance advisory committee and a member of the faculty of Wharton School of Finance, has been employed by the Civil Aeronautics Board as a special consultant on insurance.

TWA Reports \$2,176,035 Profit; Revenues Increase

Despite a reduction in its operat-ing fleet to "slightly more than half of its former size," Transcontinental and Western Air, Inc., Kansas City, Mo., discloses in its annual report (1942) operating revenues of \$16,-044,632.55, an "all-time high," and 14% more than in 1941. Net for the year after taxes was

\$2,176,035.35, contrasted with a \$487,613 loss in 1941. During 1942 an additional \$1,044,380.44 was realized from sale of planes, engines

and accessory equipment.

"Planes are now operated more hours per day than ever before in the history of the company," report explained in pointing up utilization of TWA's planes during the year. "Payload utilization has been virtually at a maximum . . . dur-ing the last quarter of the year an average utilization of approximately 90% of available payload was at-

Indication of high utilization equipment is shown in TWA's record of revenue passenger miles flown in 1942, 202,114,046, only flown slightly less than the 202,614,173 figure reported in 1941. Revenue passenger load factor increased passenger load factor from 58.8% in 1941 to 71.2% in from 58.5% in 1941 to 11.7% in 1942. Revenue miles flown decreased from 19,664,811 in 1941 to 16,830,670 in 1942. But passengers carried showed only a small decrease, from 351,231 in 1941 to 317,-634 in 1942.

Express and freight pounds carried showed a very large increase, from 2,055,424 in 1941 to 4,890,962 from 2,055,424 in 1941 to 4,850,852 in 1942, and performing in 1941 911,916 express ton miles, which increased to 2,397,079 in 1942. Likewise, mail pounds carried improved from 6,522,921 in 1941 to 9,861,449 in 1942, and mail ton miles performed from 2,489,526 in 1941 to 299,820 in 1942. 3.838.830 in 1942.

Of operating revenues, passenger, with \$10,707,040.38 contributed 67%;

mail, with \$3,628,447.61. press and freight, with \$1,296,2518 and also accounted for h the increase in total operati enues, and other, \$219,550.53

Total operating expenses, \$154.412.40, were \$1,883,363.40 654,412.40, than in 1941. Flying operations counted for \$3,338,841.89; properations for \$2,018,420.56; equipment maintenance-direct 406,953.95; passenger service, the 957.51; traffic and sales, 276.95, and general and admitive, \$1,049,730.34.

TWA attributes this decrease operating expenses to reduction in plane miles flown, higher-percentage of total miles flown with two engined equipment in 1942 than 1941, and to charging a portion overhead cost to contract operations.

Total provision for all taxes à ing 1942 was \$2,167,194.41, compared with \$248,216.69 in 1941, ex cluding "taxes on gasoline, oil other purchases .

"As to the immediate outlook in 1943," says TWA, "commercial at transport operations will be on ap proximately the same scale as dur-ing the latter part of 1942, miss additional equipment is released to the airlines. Route expansion, un less having a direct bearing on the war effort, will continue to be de-ferred. Expenses are expected to increase. Because of lowered mai rates, mail revenue will probable decrease despite increases in vol ume of mail carried. However, the many uncertainties affecting operations make it impossible to cast operating results for 1943 with

Balance sheet as of Dec. shows total assets of \$18,511,71611 Current assets are \$8,282,131.57, in-cluding cash, \$2,433,374.70.

Airline Statistics for 1942

(Civil Aeronautics Administration has issued these domestic air carrier statistics for 1942 and comparison with 1941.)

Operator	Revenue Miles Flown		Revenue Passengers Carried		Revenue Passenger Miles Flown		Express Carried (lbs.)		Express miles	pound- flown	Passenger seat-miles miles flown		Passenge load factor (%	
	1942	1941	1942	1941	1942	1941	1942	1941	1942	1941	1942	1941	1942	19
All American Aviation, Ins. American Airlines, Inc Braniff Airways, Inc Catalina Air Transport	847,591 27,789,154 4,293,644 41,924	795,570 31,938,599 5,589,920 138,370	1,003,747 151,310 8,684	1,202,816 152,001 31,164	402,298,900 \$0,320,916 260,520	409,400,652 48,989,555 934,920	105,882 11,971,155 1,012,240 64,088	29,559 8,513,496 502,285 161,037	11,499,454 5,984,971,821 388,626,710 2,011,530	3,380,021 2,718,534,685 222,690,905 4,831,110	\$42,385,606 74,723,374 379,320	590,172,096 96,880,551 1,398,300	74.17 67.34 68.49	00. 47. 67.
Chicago & Southern Air Lines, Inc. Dentinental Air Lines, Inc. Belta Air Corporation Eastern Air Lines, Inc.	2,194,270 1,652,840 2,376,123 16,247,496 995,766	2,325,817 1,599,090 2,835,536 19,822,957 1,254,112	74,570 38,247 107,351 482,352 11,410	62,125 20,293 79,154 \$30,720 12,086	28,438,154 10,323,112 33,356,547 218,063,530 3,291,984	23,414,438 5,955,508 21,683,260 211,449,614 3,184,086	056,278 111,951 304,455 4,033,106 39,817	225,882 37,945 157,192 2,097,249 19,863	264,009,718 34,155,540 112,667,778 2,473,888,653 7,358,698	107,981,828 10,400,130 80,066,881 1,268,969,165 5,571,238	48,719,921 17,164,166 48,083,924 311,483,029 9,064,872	46,818,882 17,617,050 48,627,183 391,206,667 11,829,990	62.20 60.14 73.99 70.01 36.33	00 10 4 10 10
Mid-Continent Airlines, Inc. National Airlines, Inc. Northeast Airlines, Inc.	1,522,424 1,536,027 788,478 4,701,432	2,215,676 1,581,830 1,249,669 6,199,046	27,844 85,158 26,446 111,177	35,634 34,846 42,797 149,212	7,511,311 15,412,680 5,383,171 82,061,159	9,134,646 8,984,450 7,074,920 59,659,145	118,187 218,599 87,292 1,143,249	84,519 72,693 73,315 709,710	27,158,367 61,679,928 22,685,699 858,605,180	20,217,234 18,882,703 11,637,784 416,048.017	16,379,788 20,942,834 14,980,294 79,877,636	24,577,974 20,095,422 18,017,299 119,589,604	45.80 73.80 35.94 65.43	24 24
Pennsylvania-Central Air-	4,104,828	6,458,436	243,730	342,872	54,977,785	65,335,830	2,407,277	1,517,054	467,834,158	272,393,058	83,380,170	127,231,769	85.94	- 91
Pronacontinental & Western	16,591,998	19,634,941	401,892	439,444	201,783.686	202,483,452	7,364,435	2,807,131	4,794,196,293	1,823,830,627	283,236,113	344,436.557	71.34	
Air, Inc. United Air Lines Trans- port Corp. Western Air Lines, Inc.	22,100,327 2,318,740	26,288,029 3,125,079	811,408 74,108	563.883 69,848	289,994,873 24,563,818	271,837,483 22,892,262	9,208,458 1,258,188	4,318,497 822,245	7,358,786,587 867,022,831	3,247,420,704 282,202,215	353,822.842 39,348,869	409,114,865 48,632,298	62.43	
Total	110,102,860	133,022,679	3,349,134	3.768,892	1,398,042,146	1,369,584,231	40,101,657	19,209,671	23,435,206,925	10,485,058,005	1,937,672,755	2,316,205,507	72.18	9
Index (1941-100) .	82.77	100.00	88.86	100.00	102.08	100.00	208.76	100.00	223.51	100.00	83.66	100.00	122.65	100

Passengers Carried	(Total Revenue	& Nonrevenue) 1942		Passenger Miles	Flown (Total	Revenue. & Nonrevenue) 1942	
January February March April May June	286,438 371,398 428,153 389,776 240,916	August	273,162 240,705	January February March April May June July	113,134,990 104,219,667 139,060,782 158,217,878 144,047,151 109,253,326 116,104,036	Becember	96,308,472



DOTENT instrument of destruction is the R. A. F.'s Martin "Baltimore" medium bomber, as the Nazi Afrika Korps discovered to its consternation.

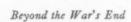
In the building of this, and others for the U.S. Army and Navy and for Britain, The Glenn L. Martin Company is pioneering new developments that hold high promise for the postwar world of peace. "Martineering" is giving America new discoveries in plastics, synthetic rubber, the light metals . . . uncovering new theories of design, new production

tools, new methods of speeding industrial output.

These Martin wartime developments will play a vital role in giving America the greatest commercial airfleets ever envisaged. Already giant over-ocean airliners of 125 tons lie ready-to-build on Martin drawing boards . . . while others of 250 tons and up, embodying even more spectacular developments, are in the planning stage.

Martin is ready, as soon as peace gives the green light, to help bring wings to the world!

THE GLENN L MARTIN COMPANY, BALTIMORE, MD., U. S. A.





From stern sacrifice on the battle fronts and the home front, a great post-Victory world is being built . . . a world of new discoveries, new abundance. For instance, Martin has designs for giant airliners of 125 tons . . . is planning others of 250 tons and more. These are ships that will bring the whole world within hours of your doorstep . . . ships that will build for a truly permanent peace by making all nations neighbors. In war or in peace, keep your eye on the Martin Star!



Builders of Dependable Aircraft Since 1909



Member: AIRCRAFT WAR PRODUCTION COUNCIL, EAST COAST, INC.

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we have kept pace with aviation progress, quickly and accurately meeting every demand for special and standard equipment. If you have an exhaust problem, our experts can

> save you time, money and



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In The Services

Arthur LaVove, former United publicity director in Los Angeles, an Arthur F. Kelly, Western Air Lines regional traffic manager, have been promoted to captains in the Air Transport Command.

Sales and Traffic

Walter Sternberg, formerly northwestern division traffic manager in Eastern, has been appointed assistant general traffic manager, with head quarters in New York.

Jack C. Elliott has been named district traffic manager by Nation succeeding Charles Wallace, now in the Navy.

Lowell J. White has been appointed acting superintendent of reserv tions and airport passenger service of Northwest.

Operations

Melvin T. Brockman, for the past two years district sales manager of Plaza Express Co., Chicago, has been named area manager for United: air cargo department, with headquarters in Chicago.

R. D. Fraser has been named assistant chief navigator for America and will devote most of his time to duties in the division of the airlin which comes under the Air Transport Command.

D. Sherman Starr, formerly of United Air Lines and recently with De fense Supplies Corp. in South America, has joined Alaska Star Airlin as superintendent of mail, express and freight.

A. B. Currie and C. C. Benson have been promoted to second off by Pennsylvania-Central.

Capts. William M. Masland, Howard M. Cone, James M. Mattis a Haakon G. Gulbransen are now serving as assistant chief pilots on Par American's Atlantic division.

Capt. Robert H. Fatt Jr. is now superintendent of training for Pa American's eastern division.

Miscellaneous

Ray V. Hamilton, who has been associated with radio sales and m agement for 14 years, has joined TWA as special assistant-executive saf Mrs. Mary Parker, magazine feature writer, is now a member of American's publicity staff in New York.

Consolidated Vultee Denies Airline Plans

Rumors that Consolidated Vultee Aircraft Corp. application with CAB to operate an airline to the Orient, known as Consairways, have been emphatically denied by Frank Lehrma

as Consairways, have been emphatically denied by Frank Lenrmanhead of Consairways and a spokesman for the corporation.

"For some time," he said, "we have been operating a scheduled air transport line to a foreign country. This entire operation known as Consairways, is under contract to and control of the Army Air Transport Command. We have no plans to file application with the CAB for license to operate an airline to the Orient and any rumors to the contrary are entirely unfounded. All effort and any rumors to the contrary are entirely unfounded. All effo at Consairways is concentrated on the work of helping to win the war by improving our operations and carrying out the orders the Army Air Transport Command to the best of our ability."

EN YOUGANTE

Curtiss-Wright Technical Institute, with proved and tested curriculum, unsurpassed and experienced faculty of practical engineers and technicians, has for many years taken great pride in training QUALITY graduates for the Aircraft Industry and the U. S. Army Air Forces...men that you can DEPEND UPON.

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MAJOR C. C. MOSELEY, PRESIDENT SINCE ITS INCEPTION AND SOLE OWNER GRAND CENTRAL AIR TERMINAL GLENDALE (LOS ANGELES) CALIF.

> CONTRACTORS TO THE U. S. Army Air Forces

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Passenger 'Servicing' Keynotes Future

Writer Recommends Check on Adequacy of Today's Policies for Tomorrow's Trade

By E. J. FOLEY

PASSENGER "servicing" can block our progress toward the ultimate in air transport efficiency just as effectively as poor airport design or aircraft complications. The passenger is the focal point of airline attention from the Loop in Chicago to the Copacabana in Rio, not from the entrance ramp of the Flagship to the exit ladder of the Stratoliner. In other words, block to block time is an important segment, but no more, of the passenger's trip.

Basically the elements of our pas-senger servicing may be considered in one of two groups. First, those in one of two groups. First, those services over which the air trans-



Foley

port operator exercises a proprietary con-trol, e.g., downtown - airport transportation, stewardservice. ticketing and reservations, and the like; secondly, we have the equally im-

equally im-portant items such as national health, customs and immigration health, customs and immigration policies and interconnecting serv-ices, over which the particular airline exercises not control but rather a cooperating influence.

The appropriateness of a consideration of both these groups is highlighted by the influence of the war upon our transportation services. The expansion of our sphere of operation and the elevation of our expected service level in the post-war world combine to dominate our planning for tomorrow. The result of to-day's compressed pioneering must not be neglect of the future. Insofar as wartime expediency permits, we must maintain, or better increase, the efficiency of the services we control. We must remember that war lowers many barriers and the services within the range of influence may be "pushovers" today but real problems tomorrow.

Time does not permit us presently to treat each single problem of these two groups in the detail necessary to specify appropriate action. However, we will touch on just a few of each in the hope of prompting development.

Under today's set of operating conditions, routes, equipment and facilities, it is apparent that the airlines are alert to the service requirements and are maintaining the maximum practical level. Yet all of our premises may not hold in an era of 100,000 pound 300 m.p.h. air-

era of 100,000 pound 300 m.p.h. aircraft, international networks of routes and airports still further removed from the metropolitan areas. Getting specifically into those items which are airline controlled. the trend appears to be toward decentralization of ticketing in the future. By this we mean that fewer and fewer people will buy their tickets at the airport counter. In normal times we feel they prefer to

make all arrangements beforehand in a central downtown or hotel ofin a central downtown or hotel of-fice and at the appropriate time simply proceed to the airport ready for departure. The net physical re-sult upon facilities and ticket per-sonnel is evident. Possibly a one-man ticket setup at the airport will be all that will be required for the emergency or inherently last-minute traveler. In anticipation of such an eventuality it would be well to have done some thinking about passenger baggage handling under

such a setup.

While on the subject of ticketing and its ally, reservations, we re-commend serious consideration of needed revision to mechanics of these procedures if we step up passengers per plane, planes per day, etc. The volume that we may be called on to handle must not lose its personalized effectiveness or accuracy under expansion. Therefore, the operator must not assume but the expected capacity assure that the expected capacity is comfortably available. It strikes us that something more than simple linear expansion of forms, space and people will be needed.

Now that we have the passenger

Now that we have the passenger ticketed, we must get him to the airport in time for his departure. In spite of much conversation regarding the need for airports centrally located, the physical determination of the control of the co nants seem to win in every case. Accordingly, we find ourselves moving further and further from the district in which our customers are concentrated.

Part of Trip

Let us remind ourselves that toand-from airport travel is a part of our customer's trip; it adds up on his traveling time. Its speed on his traveling time. Its speed and comfort complement our block to block service and we must key them together. Time-economy is them together. Time-economy is a major commodity of our stock. If distance continues to oppose us in this respect, we must combat it by speed. We doubt that surface speed will be a permissible solution. Underground or air are possible media. The former presumes a subway-type conveyance which im-

media. The former presumes a subway-type conveyance which immediately removes this technique from the control of the operator and puts it, at best, as a municipal problem, possibly airline influenced. Air service, as we mentioned some months ago, would be practical with the roof top to airport helicopter. Yet, considering 50 passenger air-planes and ten passenger helicopters, we stub our toe on the prob-lem of helicopter-limousine fleets.

Conversely, if we talk of 50 pas-senger helicopters, we might be further ahead to keep the passengers in the helicopter from rooftop of origin to rooftop of destination.

Regardless of any problems or even absurdities encountered in a contemplation of this problem, feel the helicopter to be an im-portant element of the future air transport picture. We are wonder-ing what thought is being given this device by potential manufacturers

and by the operators.

The transportation vehicle, our The transportation vehicle, our aircraft, is the next problem. It is the backbone of our service and is the backbone of our service and as much of an influence as any part of our organization. Major among the problems of passenger "servicing" involved in the vehicle are: food service, sleeping accommo-dations, toilet facilities, baggage accommodations.

Food Service

Regarding food service, trip-time determining factor in the dis-ion of this problem. We are position of this problem. We are faced with the consideration of elaborate galley equipment for thorough food preparation, thermos jug provision or box lunches. The routine to be followed can be established upon study of the specific route, trade expected and similar variables. In any event, we must plan to be equipped appropriately for topnotch service to the traveling public. The element of aircraft size, if in certain circumstances independent of route, may permit the inclu-sion of a dining salon and full meal preparation without penalty for extravagance.

Again the route and trip time may direct our decision in the matter of sleeping accommodations or the argument of reclining seats-vs-berths. The sole basis for decision berths. The sole basis for decision on this point obviously cannot be passenger comfort. The element of berth and berth accessory weight combined with the problems of putting berths into service will necessarily affect the solution.

The aircraft size increase should presume the provision of adequate toilet facilities. Most probably the result will be a division into separate accommodations for men and

Finally, we meet the problem of passengers' baggage handling aboard the aircraft. Will the ready avail-ability of his baggage to the pas-Will the ready availsenger ever be desirable, necessary or practical? As is frequently the case, this problem is intertwined several other problems, particularly the sleeping accommoda-tions provided.

Considering composition crew from a passenger service standpoint, the operator must decide upon steward, stewardesses or an assort-ment of both. For simultaneous consideration, we have the problem of requirements for these positions; the experience we are gaining now in operation may prove to us the practicability of dispensing with the registered nurse factor as a stewardess qualification. Barring ourselves a lambasting we personally wonder if we might expect more in

the way of understanding and Tor nursing training.

Scheduling

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Lastly on our list of airline or trolled factors of passenger service we have scheduling. Naturally ubing Se airlines establish the schedules routes to meet the desires of public. Since the industry service industry, we are guided these demands if we are to pe form our function. However, with to caution those who form instance late the traffic schedules when the sarily. (We make specific reference to the sarily.) airlines establish the schedules to a major airline which would able to maintain 100% of its pressure with one less airplane it single departure were delayed and.

15 minutes.) That such a similation can actually exist is unquestionable. We mention this point safe plus a reminder that service to the passe selimin senger in the form of schedule of or wentuall we lean over backwards and it to have been over backwards and it has been over backwards and it have been over backwards and it has been been over backwards and it ead an

we lean over DRCKWARUS and an knowingly splurge. First in logical order of the an line "influenced" items from the standpoint of passenger servicing parkplug For t standpoint of passenger servicing the airport terminal building in its appurtenances. If we think the passengers as arriving at the airports fully ticketed, would be logical to retain the central per tion or rotunda as a public servi center housing only restaura barber shop, post office and simil items? This would leave us to branch out on each side of this center with passenger "units" which could be standardized and built to specific capacities of outgoing an incoming passengers. Internations and domestic traffic migh be at opposite ends of the cente Each unit would house as required baggage handling; ticket taking plane loading and unloading ramp customs, health and immigration service. We do not contend that such a setup would adapt itself to present practice but would its po-tential directness and speed as we as ease of expansion (simply ad another unit) offset the trouble revising our routines? We are in revising our routines? clined to think it would.

The most extensive problems passenger servicing in international operation and one over which the operators may exert a good influen is that of customs, immigration as health regulations. While the operations tion of these services differs great from nation to nation, they hav one unfortunate point in common time consumption. Truly enough they are no less imposing upon its surface traveler, but their cumulative effect on total trip time by a makes them more devastating.
We trust that the air transp

operators who contemplate extensions into international air tran of the differences between tody requirements and those of peace time. As we said earlier, we lowers many barriers in the in terests of expediency of prosection. The situation may be expected to revert to normal complexity in the future.

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new snap-acting torque wrench, d under the trade name Liveranding and Torq-Snap, gives both and se with dible and physical signal when e proper predetermined torque ad is reached. It is a product of thing Seal-Cap, Inc., 215 W. 7th



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no reference bubble spring bar provides a "click" h would be a constructed by the designed primarily for applying is unquestionable to the construction of the constru to the ps be eliminate the danger of pilicining is shedule if or weakening flares. It will ecked he mentually be available for addiss and in ional uses: engine base, cylinder to bolts, of the in lead and connecting rod bolts, from the parkplugs, wing attaching bolts, etc. servicing the nut wrenches, open or box ethink ands, offset or straight, will be ing at the vailable.

Littelfuse Introduces **New Signal Light**

A signal light said to work in daylight, "black light" and no light, Signalette No. 1534 is announced for aircraft use by Littelfuse, Inc. 4757 Ravenswood Ave., Chicago and El Morte, Cal El Monte, Cal.

Indication from this unit is entirely by reflected light and radioactivity. It operates by fluorescence under "black light" from the usual sources within aircraft. A radiumactive fluorescent paint used on the indicator shows signals in total dark-ness. It is said to do away with the ness. It is said to do away with the blur occasioned by transmitted light and with glare. It also claims to overcome the disadvantage of dim-ming under bright sunlight; it brightens the signal according to the outside light.

The Signalette offers non-shatterable protection by a transparent plastic cap which will withstand the most severe tests of shock and explosion. The basic design is said to make it much stronger than the well-supported filaments of a lamp.

The body of the indicator houses a solenoid, the armature of which is connected to the "butterfly" indication vanes by a simple lever. The fluorescent butterfly (in red, amber or green) opens instantly to show the proper indicating light

'ESNA' Nuts

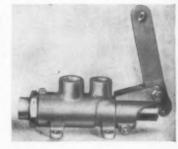
The locking device manufactured by the Elastic Stop Nut Corp. of America, Union, N. J. and Lincoln, Neb., will hereafter be known as the ESNA nut, the company announced recently. The trademark was adopted as a result of the growing practice of engineers in aircraft and other fields using the stop nuts to refer to them by the initials to refer to them by the initials 'ESN."

A further advantage of the new name, President William T. Hedlund pointed out, is its adaptability to foreign trade after the war since "esna" is pronounceable in almost any language.

Fastener Tested

In technical laboratory tests rean technical laboratory tests requested by the manufacturer, Scovill Manufacturing Co., Waterbury, Conn., the new "Loxit" Skin Fastener is reported to have a much higher factor of safety, saves 75% of worker fatigue and speeds the operation 10%. Features of the fasters of the tener are: specially tempered steel legs; center wedge action which assures filling of the hole, preven-tion of lateral motion and resistance to vibration. Heat treatment of the case adds to the fastener's resistance to plier wear.

These fasteners are currently available in sizes for 3/32", 1/8", 5/32" and 3/16" diameter holes.



Completes Test: This new type of power brake valve has now completed final tests and is ready for production by Booth Mfg. Corp., 3333 N. San Fernando Rd., Burbank, Cal. The valve Fernando Kd., Burbank, Cal. Indedidifers in construction in that it contains a cartridge-like assembly which may be replaced for maintenance reasons. The cartridge contains only two concentric moving parts and it may be tested sep-arately from the housing.

Paint Spray Booth

Type FLRS-7 standardized floortype FLKS-1 standardized floor-type paint spray booth, featuring rear and side water-impingement walls and using the patented super-turbulent chamber of the manufac-turer, is announced by Aqua-Restor Division, Mayer Mfg., Corp., 56 Division Pl., Brooklyn.



Allies' Use of Fairchild Trainers Increases, Annual Report Says

Disclosure that planes manufactured by Fairchild Engine and Airplane Corp., New York, N. Y., are being used in various foreign countries through Lend-Lease arrangements and some direct purchases is made in company's report on operations in 1942.

These countries are reported to include Canada, for British Empire and Canadian Training; Norway in Canada, San Salvador; Ecuador; Bolivia; Chile; Argentina; Uruguay; Brazil and the Air Transport Auxiliary in Great Britain.

On sales of \$47,080,224, in 1942, more than three times the \$13,802,-436 volume in 1941, Fairchild reports net income of \$626,744, equal to 60c a share, against \$541,079, or 52c in 1941. Provision of \$3,176,474 for Federal taxes, less postwar refund for 1942, was made in 1942, compared with \$1,217,571 in 1941.

As a part of company's international operations, license negotiations were completed during the year between Fairchild and the Brazilian Government for the manufacture by Brazil of the PT-19, designated Cornell in the United States. Brazil also purchased a number of Fairchild's transport, the UC-61A, the Forwarder, which were flown to that country.

Operations of Fairchild are "being financed almost exclusively by means of advance payments under supply contracts, principally with the War and Navy Departments," according to company. Consolidated net working capital was increased from \$558,749 at the end of 1941 to \$1,700,145 a year later. Need for adequate working capital has prevented any distribution of dividends, management decided, judging that "best interests . . would be served by retaining all 1942 earnings to help meet the needs of the business."

Research activities of the Duramold Division are concerned with "development of new non-metallic materials, methods of efficiently using these materials and development of a patent structure applicable to the art . . . (and) putting into production its new discoveries and inventions . . . In many instances it develops new designs and new techniques and it acts as a consultant and advisor "in connection with extended use of Duramold in the Aircraft Division's products."

Balance sheet as of Dec. 31, 1942

Balance sheet as of Dec. 31, 1942 reported total assets of \$29,387,-607.60, and current assets of \$18,-832,329.31, including cash, (including \$3,361,095.35 restricted for use in the performance of particular contracts), \$5,436,006.80. Current liabilities were \$9,560,618.25, including accounts payable—trade, \$2,850,-515.95. Reserve for readjustment to a postwar basis totaled \$775,793.02, and earned surplus was \$649,230.96.

JACOBS AIRCRAFT ENGINE Co.. Pottstown, Pa., has announced dividend of 15c on outstanding no par common, payable April 10 to holders of record March 29.

WPB Labor Groups Act To Speed Assembly Lines

Study and attempted solution of labor problems in aircraft plants have occupied major attention of WPB executives during the past two weeks. Four steps were taken: the Labor-Management Council held its first meeting with Chairman Donald Nelson April 2, incentive pay plans were being developed by Executive Vice Chairman Charles E. Wilson, a new unit to act as liaison on manpower problems between WPB and War Manpower Commission was being studied, and dissolution of Wendell Lund's Labor Production Division seemed imminent.

1. Incentive pay plan: Dean Wayne Morse, NWLB public member, told American Aviation that an incentive pay plan could not be considered inflationary if it increased production—it would even be deflationary if successful. Most Washington officials felt that NWLB approval would have to be given to any incentive pay plan before WPB executed it.

Sources close to Wilson reveal that the "plan" is merely a proposal, with final details to be ironed out. However, these sources state that the plan agreed upon will be tried first in the aircraft industry, probably in aircraft fabricating plants which are considered trouble spots. Should the plan adopted increase production it will be initiated in other aircraft plants and finally in all war production plants.

The chief problem confronting the Board is whether the additional pay should be an increase of a percentage of salary where production is greater, or a bonus based on a percentage of wages.

2. Labor-Management Council meeting with Nelson and other chiefs: Following a prolonged session Nelson told the press that the chief subject of the meeting revolved around production problems in the airplane program of 1943. He pointed out that consideration of aircraft production was not concerned with airframe alone, but with the production of aluminum, alloy and steel and all the component parts of the aircraft industry.

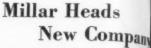
The problems provoked by the question of incentive pay plan were also discussed at this meeting, Washington surmised.

ing, Washington surmised.

Nelson indicated to the press that
the Council's subcommittee, which
met for the first time on April 7,
would study the same problems
that appeared before the Council
and WPB officials.

3. The liaison unit group: This unit will coordinate manpower problems between WPB (charged with production) and W M C (charged with manpower) so as to reach the greatest utilization of both for war needs. It has been widely rumored in Washington that Robert K. Lamb was asked to head the new unit although Nelson has denied that any selection has been made. Lamb was formerly director of the staff of the Tolan Labor committee of the House.

4. Wendell Lund's Labor Produc-



Formation of Avion, Inc. 14
Angles, Cal., has been announce
with Richard W. Millar as predent, and R. W. Palmer and Da
I. Carroll as vice presidents.

Company is now concentration on production, research and en neering of military aircraft, and substantial backlog of manufacturing and engineering contracts have been developed, according to the pany officials.

been developed, according to the pany officials.

Millar was formerly president as a director of Vultee, Carroll was vice president in charge of production and Palmer was vice president in charge of engineering of the same firm. All three resigned firm Vultee during 1942. Other officer of Avion are Roland J. Page treasurer and controller, Morgan W. Lowery, secretary and J. Coots, assistant secretary.

tion Division: The group has never functioned effectively at WPB as it is thought it will be abandone soon. Chief trouble is that in Division works solely with plant having labor management committees and of the more than 20,000 war production plants in the U.S. only about 2,600 have such committees. Their labor and manpower functions have necessarily been sucurtailed that they have been unable to accomplish much.

Vaughan Testifies On New Labor Bill

G. W. Vaughan, president of Cutiss-Wright Corp., and C. E. Wilson president of General Motors Corp. testified during the past fortnigh before the House Military Affain Committee in support of legislation by Rep. Howard Smith (D. Va.) which would block "present attempts to form unions of supervisory employes in war production industries."

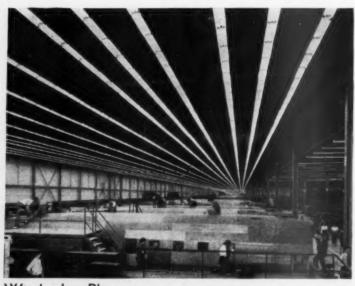
"The activities of such unions made up of employes entrusted with management functions would seriously interfere with the successful production of war materials," Wilson claimed.

Stratotrainer Used By Boeing to Train B-17 Flight Crews

A new low pressure chamber, called the Stratotrainer, which is capable of reproducing an atmosphere equal to that of an altitude "far beyond 50,000 feet" has been announced by Boeing Aircraft Co, Seattle, Wash.

Primary purpose, says, Boeing, is to "train (flight) crews in safety precautions necessary while breathing oxygen at high altitudes." Stratotrainer is of such size that a complete flight crew can be trained at one time. It is used exclusively for the training of high altitude crews by Boeing.

altitude crews by Boeing.
Company's Strato-Chamber, which
has been used for this purpose in
the past, will in future be used
exclusively for mechanical research.



Windowless Plant: This is the first interior photo of Douglas Aircraft Co.'s Oklahoma plant where C-47 Skytrains are already being produced. Austin Co. engineers who designed the windowless plant eliminated 200 tons of critical materials by the use of non-metallic lighting reflectors and four-lamp instead of two-lamp ballasts in the fluorescent lighting mechanism. Reflectors are masonite with synthetic white enamel surface.

tratoliners? BECOME OF THE



STRATOLINER MAKES 17 OCEAN CROSSINGS IN 22 DAYS

For more than a year TWA Stratoliners in Army camouflage have been roaming the airways of the world, serving urgent air transport needs of our country's armed forces abroad.

Famous cities in foreign lands have become familiar ports of call for the big four-engine airliners that introduced faster, high-level luxury flying to air travelers in the United States.

Carrying irreplaceable war cargo to rough, hurriedly-made airports, the Stratoliners have each flown thousands of miles a week, often with loads tons greater than they were designed to carry. One of the Stratoliners recently made a record of seventeen ocean crossings in only twenty-two

days in delivering critically needed materials to our fighting men overseas.

The record-breaking peacetime performance of the Stratoliners, when they carried 110,000 passengers in 19 months, has been more than equalled by their wartime service to the nation.

TWA Services Performed for the Armed Forces: Over-Ocean Air Transport Operations—Military Aircraft Modification—Army Aircraft Mechanic, Radio Operator and Radio Mechanic Training -Flight Crew Training-Four-Engine Training-Communications Engineering Projects - North American Air Cargo Service.

Government support has been given the airlines in part to prepare them to serve the needs of National Defense. This is another in a series of messages telling how TWA is fulfilling its obligations to the nation in wartime.

TRANSCONTINENTAL & WESTERN AIR, INC.



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The name "IRVIN" on the harness means the chute is produced in an Irvin Factory with over 20 years of experience and skill in chute-making.

Literature can be had by school or training executives for the asking. Address Main Office, Buffalo,

IRVING AIR CHUTE CO., INC. 1670 Jefferson Ave., Buffalo, N. Y.



SERVING THE UNITED NATIONS' AIR FORCES

Industry's Weekly Hours Above Nation's Average

A VERAGE weekly hours worked by employes in aircraft, part, a aircraft engine plants during January were somewhat above the aim average of 44.2 for all manufacturing, according to a compilation public by the Department of Labor. For the most part, little change shown in comparison with the average hours worked during the pression. two months

Average hourly earnings were up slightly in the aircraft industry weekly earnings showed little fluctuation over the three-months pa The Labor Department's figures for four war industries follow:

	Aver	age We	ekly	Averag	e We	ekly	Aver	rage Hour
	Earnings			H	ours	Earning		
		Dec.		Jan. 1943	Dec. 1942	Nov. 1942	Jan. 1943	-
		Dollar	S				(*)	(cents)
Aircraft and Parts,								
Excluding Engines	46.63	47.08	46.53	46.5	46.9	46.6	101.2	100.2 u
Aircraft Engines	59.88	58.49	58.89	48.4	47.7	47.5	124.8	122.6
Machine Tools	53.25	53.73	53.18	52.5	53.0	52.8	101.4	101.3 10
Automobiles	55.85	54.51	54.65	45.7	45.5	45.5	122.2	119.8 m
Shipbuilding	57.40	58.09	60.67	47.3	47.7	48.0	120.4	122.0
(*) These data include	the	effects	of the	payme	nt of	a pren		

New Year's by firms reporting on a monthly or semi-monthly pay roll rather on a weekly pay roll

Martin's Annual Report Reveals Cargo Plane Plan

Long experience of Glenn L. Martin Co., Baltimore, Md., in designing and building large aircraft will be useful in construction of cargocarrying planes in the postwar period when these planes are ex-pected to be "an instrument of great national as well as inter-national importance," according to statement accompanying firm's report for 1942.

A sales increase over 1941 of "approximately 500%" was revealed rapproximately 500%" was revealed in net sales figure of \$337,556,000.17, contrasted with \$67,237,688.71 in 1941. Net income in 1942 after all charges and reserves totaled \$6,658,809.01, equal to \$6.01 on each of 1,107,022 shares, opposed to \$5,773,148.52, or \$5.24, in 1941.

Provision for Faderal and table

773,148.52, or \$5.24, in 1941.
Provision for Federal and state income and excess profits taxes in 1942 was \$30,413,940.26, of which \$27,661,415.09 represented excess profits taxes. To meet "presently unforeseen contingencies", \$3,000,-000 was set aside from earnings.

Difficulties of materials shortages, manpower and increased produc-tion schedules, Martin is meeting by "Substitution of noncritical materials for critical materials, re-finement of operating procedures and manufacturing technique, improvement in arrangement and design of the tools of production, education and aggressive follow-up of suppliers of materials and parts, im-provement in the procedures of production planning and progres-sive in-plant training of all em-ployes-workers and supervisors sive in-plant training of all employes-workers and supervisors alike." One manufacturing difficulty, skin wrinkling, Martin has overcome by applying heat to the skin while it is being riveted, causing some expansion. Subsequent shrinkage when the heat is removed "smoothes wrinkles and increases airplane efficiency." Another, riveting around corners, has been solved by the "bent-peen riveter." Avowed policy of Martin, accord-

ing to report, has been since 1940

to avoid as far as possible plus-fixed-fee contracts; 1942 sales "represent actual delivers

When report was complete "nearly 30%" of company's exployes were women, and "it is a ticipated that this percentage wincrease... (and) utilization. Negroes (both men and wome in skilled trades has made grafying progress."

Balance sheet as of Dec. 31, 18, shows total assets of \$251,240.

shows total assets of \$251,2140 and current assets of \$234,858,411 including cash, (includes \$3506,410.65 restricted to expenditu under contracts with, or to rep an equivalent amount of adva made by, departments of the Uni States Government), \$48,131,396 States Government), \$46,53,500 Current liabilities amounted \$218,455,869.45, including accompayable—trade (including \$22 957.23 due to major sub-contracts u n d e r cost-plus-fixed-fee contracts), \$23,994,099.99. Earned su plus was \$16,038,140.19.



Piggy Back: Milo Burcham, L heed's chief test pilot, and Rudy Tho chief flight test engineer, are short a "piggy-back" P-38 Lightning fight By removing certain radio equi possible to take fledgling pilots aloft for instruction.

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• There was plenty of time to save the plant . . . even after the flames caught the edge of the puddle of oil.

But someone hit the blaze with a water stream. Ten min-

utes later you could see the flames all over town.

In your shop you should have men who can handle extinguishers . . . who can pick the right one when fire strikes. Training provides the answer. The best training is a wellrun demonstration, where men can see extinguishers in action, learn how to use them.

Walter Kidde & Company is preparing a booklet—"How to Teach Fire-Fighting." It tells how to handle demonstrations effectively, how to set up fire tests, how to explain extinguisher action. Write now. We'll mail you a copy.

Walter Kidde & Company Inc. 413 Main Street Belleville, N. J.



Lockheed & Vega Report 1942 Sales Near Half Billion

Net sales of \$491,160,470 and a net income of \$8,163,721 are reported by Lockheed Aircraft Corp. and its subsidiaries for the calendar year 1942, after provision for reduction of prices by \$30,927,180 under un-completed renegotiation of some government contracts. This was \$7.59 a share.

Sales in 1941, representing a 350% increase over 1940, were \$159,240,351, and 1941 net profit was \$6,608,621.

"The total production and services, "The total production and services, including expenditures under costplus-fixed-fee contracts, performed by the company and its subsidiaries (Vega Aircraft Corp., Lockheed Air Terminal, Inc., and Lockheed Overseas Corp.) for 1942 aggregated approximately three times those performed in the preceding year and approximately 11 times those performed in 1940," Robert E. Gross told stockholders in a brief statetold stockholders in a brief statement.

Numerically, the major item of production was the P-38 Lightning, production was the P-38 Lightning, although quantity production was also attained on the Boeing B-17 series built by Vega, on the Hudson bomber built in several versions, the Lockheed Lodestar cargo transport, and the Vega Ventura, used in several arrangements by the U. S. Army and Navy as well as for the RAF. Production in quantity of the four-motored Constellation "is hoped for in 1943." for in 1943.

Most of the year's business was done under fixed price contracts, favored by the management.

To finance the carrying of substantial inventories, large sums of money at one time or another were borrowed from a group of private banks. In 1942, total borrowings reached a maximum amount of \$42,500,000. Your companies were able to liquidate all bank loans prior reached to Dec. 31, 1942.

"During 1942 a new type of financing, which has become known as Regulation V financing, was developed for war industry in order to reduce the need for substantial government advances to contractors as provided previously by Congress
. . . Your companies jointly arranged a credit of \$90,000,000 as of Nov. 13, 1942, for approximately three years. None of this credit, however, was in use on Dec. 31, 1942, and U. S. government advances had been reduced by that date to less than \$11,000,000. Since that less than \$11,000,000. Since that date all government advances have been liquidated and the credit has been partly utilized.

"In spite of fundamental pref-. for fixed price conerence tracts, the companies have taken business for future delivery on a cost-plus-fixed-fee basis in order to realize certain benefits offered this type of contract . . . Recently, however, the War Dept. has expressed a preference for fixed price contracts and if satisfactory ter-mination clauses in such contracts can be negotiated your companies contemplate conversion of some of their present fixed fee contracts to



Receives Award: Randoloh Walker, president of Aircraft Accounting Corp., speaks at ceremonies cident to the award of the Army-Na to the company at Burbank, C.

Piper Reports \$115,865 Profi

"Our officers are optimistic o the prospects for 1943 . . . (despit serious problems of material su ply." Piper Aircraft Corp Lo serious problems of material supply," Piper Aircraft Corp., Los Haven, Pa., comments, in disclosure net sales for the fiscal year ends Sept. 30, 1942 of \$5,307,749, compared with \$4,679,507 in the procedure. ceding year.

After provision of \$185,000

contingencies, net earnings in '42 year were \$115,864.87, or on each of 138,131 shares of co mon, contrasted with \$210,883, (\$1.44 in the preceding year.
Supplementing its liaison plan

the L-4 Grasshopper, Piper reports it had developed a new Cruise Model, a "number" of which we ordered by the U. S. Navy "to b used at various training centers This plane, "readily convertible in an ambulance plane" was describ was describ "powered with a 100 horsepow Lycoming engine which gives the model additional speed, climbin ability and considerably better all

around performance."

Difficulties with materials, supplies of which were never "sufficient." were added to "increasing acute" manpower problems, according to report, which reveals the majority of new employes, a the time report was prepared, we "either very young or quite of men and women, inexperienced at unskilled."

Provision of \$595,000 was made for Provision of \$595,000 was made for Federal income and excess profis taxes. Balance sheet as of Sept. 3, 1942, shows total assets of \$3,20,522.14, and current assets of \$2,366,548.63. Current liabilities were \$2,013,355.01, including notes purable, \$660,597.97 and accounts purable \$594,096.96. Total surplus were \$744,612.99 \$744,612.99.

a fixed price basis."

Dec. 31 balance sheet shows total assets of \$161,388,017, with current assets \$133,334,929, including call of \$25,176,842. Current liabilities were \$121,254,296. A total of 1,075,8 \$1-par capital shares were outsta ing, while earned surplus was \$15,766,365, and paid-in surplus was 766,365, and paid-in surplus was \$15,066,074.



of tomorrow, Horace Greeley might well say, "Go north, young man, go north!"

For in Canada's Northland lie the world's greatest untapped resources . . . undiscovered wealth. There, north of the 53rd parallel, are over 1,500,000 square miles of largely undeveloped riches...minerals, timber, fuel. There are the air bases for short "roof-of-the-world" air lines to Europe and Asia ... THERE IS THE **FUTURE!**

the foundation for the north that is to be. A large fleet of modern planes, with an annual flying mileage of over 5,000,000 plane miles, steadily brings the north nearer to settled industrial centres. Today war cargoes fill these planes. Routes connect with Trans-Canada Air Lines and the leading United States air lines.

Yes, the north is opening. When victory is won, Canadian Pacific Air Lines will open it ... wide . . . wide . . . WIDE!



Canadian Pacific AIR LINES

Wings of the World's Greatest Travel System

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-MANUFACTURING











Essig

Deckard

Kartage

Johnson

A. L. Golay, formerly with the Jaqua Co., Grand Rapids, Mich., has been appointed to the refrigeration engineering and service staff of Kold-Hold Manufacturing Co., Lansing, Mich.

Robert H. Morse, Jr. has been promoted from assistant sales manager to general sales manager of Fairbanks, Morse and Co., Chicago, Ill.

At Consolidated Vultee Aircraft Corp., San Diego, Cal., George Gerhauser has been promoted from superintendent of tool manufacturing to assistant chief tool engineer; W. M. Wibbenhorst succeeds Gerhauser; R. P. Waite has been appointed staff assistant to I. W. Taylor, chief of manufacturing facilities and standards.

John W. Horner, formerly with Lawrance Engineering and Research Corp., Linden, N. J., has joined the development staff of Guiberson Diesel Engine Co., Dallas, Tex., in the single-cylinder laboratory.





HYDRAULIC VALVES



TAB CONTROLS AND ACTUATORS







FLEXIBLE SHAFTS

TACHOMETER ADAPTERS DE-ICER EQUIPMENT

AVIA OF TOPRITION

BLOOMFIELD

NEW IERSEY

George M. Jones and Royer M. Lake have been elected directors of Electric Auto-Lite Co., Toledo, O.

John F. Kidde has been elected president and Clayton E. Freeman chairman of the board of Walter Kidde and Co., Inc., New York, N. Y.

Fred G. Essig, formerly associated with Douglas Aircraft Co., Inc. Santa Monica, Cal. has become factory manager of the Tennessee division of McDonnell Aircraft Corp., St. Louis, Mo.

H. C. Deckard, formerly with Ford's Willow Run Plant, has been make division manager of both Republic Aircraft Products Division and Northern Aircraft Products Division of Avlation Corp., New York, N. Y.

Charles R. Cox has been elected president of National Tube Co. and of Tubular Alloy Steel Corp., subsidiaries of U. S. Steel Corp., Pittsburgh, P.

George E. Allen has been elected a member of the board of director of Aviation Corp., New York, N. Y., and Emil T. Johnson, formerly work manager, has been promoted to plant manager of this firm's Pennsylvania division.

Roy T. Kartage, executive assistant to the president, in charge of the aircraft armor plate division of Simonds Saw and Steel Co., Fitchburg Mass., now makes his headquarters in the company's enlarged offices at 11 Park Place, New York, N. Y.

Recent changes at B. F. Goodrich Co., Akron, O., include: F. T. Marshal succeeds G. G. Zimmerman as head of aeronautical sales, Washington division, and continues in charge of the Baltimore office, while Zimmerman goes to Dayton, O., in charge of activity there; also to Washington have gone H. F. Bichsel in fabric and inflatable products sales, Ear Kambrich, in other aeronautical products and W. E. Ireland in tire, tuke and accessory sales; Maury M. Calvert has been named manager of the new sales and service office in Atlanta, and E. E. Bost has joined the Dallas, Texas staff in charge of aeronautical sales.

Republic Expands; Taxes Cut Income

Increased Government contracts during 1942 for the P-47 Thunderbolt fighter made necessary further expansion of Republic Aviation Corp's Farmingdale, L. I., N. Y. plant, and establishment of facilities in Indiana, company discloses in reporting net profit for the year of \$2.105.061

Profit was after provision of \$4,765,000 for Federal income and excess profits taxes, which with other deductions from the \$6,545,571 original income figure, reduced Republic's net to about one-third of income. For postwar reserve, \$1,000,000 was set aside.

Accompanying enlargement of production facilities, Republic "trained many thousands of new employes," but felt that interests of national security made any further

disclosures unadvisable at this time. Retirement of \$1,609,986 in bank loans for operating capital left no such loans outstanding at the end of the year, according to report, and earned surplus since April 30, 1939 amounted to \$2,316,231.

Balance sheet as of Dec. 31, 192 shows total assets of \$33,956,747, and

Balance sheet as of Dec. 31, 192 shows total assets of \$33,956,747, and current assets of \$31,983,857, including accounts receivable, \$8,890,691. Current liabilities are \$28,047,729, including accounts payable-trade \$5,564,993.

Codding Named

C. C. Codding, formerly western sales representative for United Aircraft Products, Inc., Dayton, O, has been named general manager of Aircraft Parts Manufacturers Association, Los Angeles, Cal., according to the association's executive committee. Association was reported to have gained 31 new member firms during March.



We, Too,
Are Accumulating
Are Lable Experience
Valuable Experience



Precision Testing—This is a special Mallory-designed fixture for checking each bearing spline with relation to others. Similar inspections at other stages of production control quality of materials, gauge physical dimensions,

Experience is providing ever-increasing gains in the output of Mallory Bearings made by the Mallosil Process of bonding rare metals to base metal backings. Experience has made possible a quality and quantity of precision accuracy production considered impossible only a few months ago.

Experience is responsible for the technique that makes Mallory Bearings reliable performers for aviation engines that must withstand terrific pounding and fatigue stresses under the most difficult combat conditions. With tolerances measured in split-thousandths, Mallory Bearings provide tough, homogeneous silver surfaces of high fatigue resistance; ample strength and hardness; and high resistance to seizure. Their War record bespeaks their superiority for the toughest kind of work.

Experience has enabled Mallory to design tools and testing equipment that assure uniform accuracy for Mallosil-processed Mallory bearings, bushings, pinion races, gear races, spacers, collector rings and other vital parts used in many types of military planes.

Of course, all Mallory experience now is concentrated on War production. But continuous research is aiding experience and the net result will be a fund of knowledge invaluable after the War to manufacturers of high-speed motive parts. Consult us.

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MANUFACTURING-

DPC Authorizations

F. BOWSER and Co., Inc., Fort Wayne, Ind., providing equipment at a plant in Indiana, costing approximately \$90,000.

BRIGGS MANUFACTURING Co., De troit, Mich., for additional equipment at plants in Michigan and Indiana, ap-proximating \$1,700,000. DOUGLAS AIRCRAFT Co., Inc., Santa

Monica, Cal., providing additional space in a California plant, at cost of about \$185,000, making final commitment about \$10.800,000.

ROHM AND HAAS COMPANY, Inc., ROHM AND HAAS COMPANY, Inc., Philadelphia, Pa., for additional equipment at a plant in Tenneasee, costing approximately \$50,000, resulting in total commitment of about \$2.890,000.

LEAR AVIA, Inc., Piqua, O., additional equipment for a plant in Ohio, approximating \$50,000. making final commitment about \$650,000.

INTERSTATE AIRCRAFT AND ENGINEERING COPP... EI Segundo, Cal.,

INTERSTATE AIRCRAFT AND ENGINEERING Corp., El Segundo, Cal., providing further facilities at a plant in Illinois, to cost about \$500.000, resulting in overall commitment of roughly \$1.-420.000.

MURRAY CORPORATION of AMER-ICA. Detroit. Mich., for more plant fa-

cilities in Michigan, costing approxi-mately \$1.400.000. making final commit-ment about \$4.235.000. LUSCOMBE AIRPLANE Corp., West

Trenton, N. J., providing additional plant facilities in New Jersey, to cost about \$50,000, resulting in total commitment of approximately \$200,000.

CURTISS-WRIGHT Corp., Airplane Division, Buffalo, N. Y., for additional plant facilities in Missouri, costing approximately 825,000, making total commitment about \$23,750,000; for further plant facilities in New York state at mitment about \$23.750.000; for further plant facilities in New York state at cost of approximately \$13.000.000, resulting in total commitment of about \$48.000.000; for additional plant facilities at a plant in New York state, costing about \$1.000.000, making total commitment roughly \$5.300.000.

AVIATION Corp.. New York, N. Y.. for additional facilities at a plant in Ohio costing about \$630.000, resulting in total commitment of about \$2.710.000.

AMPCO METAL Inc., Milwaukee, Wis., for additional equipment at a plant in

for additional equipment at a plant in Wisconsin. costing approximately \$320.-



Curtiss-Wright Directors: Members of the board of director Curtiss-Wright Corp. are shown during a recent meeting in the of of its Wright Aeronautical Corp. division. Left to right are J. Willson, M. B. Gordon, S. R. Reed, J. R. Dillon, E. S. Cramer, G. Vaughan, president; H. G. Hotchkiss, legal counsel but non-member the board; C. W. Loos, Burdette S. Wright, Robert L. Earle and Ed S. Bloom. Four directors not present were William F. Carey, J. Che Cowdin, Charles A. Dana and E. R. Tinker.

Churchill Denies Air Charges

Prime Minister Winston Churchill denied in the House of Commons April 6 that the British government, in recently taking over several aircraft plants, is preparing during wartime to acquire control of the aircraft or other industries.

Harms Appointed

H. B. Harms, for the past year assistant general manager of Aero Industries Technical Institute, Los Angeles, Cal., has been named vice president, school has announced. Harms has been associated with affiliated technical schools during the past 10 years.

New Name

Aviquipo, Inc. is the new name of Aviation Equipment and Export, Inc., 23 Beaver St., New York, N. Subsidiaries are named same way, Aviquipo do Brazil, etc.
Personnel management and stock
ownership remain unchanged.

Parts Association Elects New Office

At the recent annual meeting Aircraft Parts Manufacturers A sociation. Los Angeles, Cal., T. Arden. Grayson Heat Control, Lynwood, Cal., was elected predent; Edward Doak, Doak A craft Co., Inc., Torrance, Cal., vignesident; R. R. Madison, McCo., secretary, and Paul B. Beldi. Cosco Manufacturing Co., tresur

Cosco Manufacturing Co., treasure New laws were adopted whi provide for a board of 15 directo who are, in addition to the office named: H. F. Bakewell, Bakew Mfg. Co.; A. J. Brechtel, Plon Tool Co.; W. C. Buckterkirchen, G. Engineering Corp.; L. B. Camero, Interstate Aircraft and Engineering Corp.; William Cooke, Aircraft Accessories Corp.; Harry A. Golman, Utility Fan Corp.; L. A. Havey, Harvey Machine Co.; Rola T. Kinney, National Aircraft Equiment Co.; C. L. Tanner, Hr. Chrome Engineering Co.; R. Wells, Wells Aircraft Parts Cand F. W. Wilkins, United Aircraft Products, Inc. Products, Inc.

Classified Ads

Will pay list price for old 28th, 28 28th Annual Report, bound what books (one or all) of the "National & visory Committee for Aeronautic Andrew Reid, Inspection Dept., Reversa Aeronautical Corp., Hatboro, Pa.

MALE HELP WANTED-Contra MALE HELP WANTED—Contra Supervisor, experienced in coordi-tion, general supervision and sim-listration of War Department aimm contracts and sub-contracts between customer and Internal departments the contractor. Legal experience visable. Location near Philadelph Box 358, AMERICAN AVIATION, Amican Building, Washington, D. C.

Available—Former airplane capt now employed as test pilot awais for position April 30th. 4,000 hos-820 to 3,000 horsepower multi-esp land, 1,200 horsepower Army significant air air pilot man held. Desires airline position of test pilot on multi or four-esp equipment. Box 359, American Astion, American Bidg., Washington, I

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Designed for a particular com-bination of airplane and engine, this computer enables the pilot to quickly and accurately solve his problems of speed, fuel consumption, engine and propeller settings, for all conditions of altitude, temperature and gross weight.

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"SAFE-LOCK" TERMINALS

. in eye end, turnbuckle end, stud end, and fork end.

AIRCRAFT SLINGS ...custom-built for your work. Both standard wire rope and braided slings available.

TIE-RODS ... for internal and external bracing. Streamline, square, round.

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PARKS Graduates Are More Valuable Than Ever— TODAY:

With the tremendous expansion in aircraft production, the Parks trained man has become more valuable to the aviation industry than ever before.

Every graduate of Parks has not only acquired a thorough knowledge of essential mechanical and technical skills — but he has been educated to think for himself and to make decisions. In short, he is trained for leadership.

As the demand is great, it will pay you to let us know your personnel requirements as soon as possible. A letter or wire to Oliver L. Parks, President, will bring prompt information on men available now and in the future.

PARKS AIR COLLEGE, INC. East St. Louis, Illinois



On the Labor Front

ALUMINUM ORE COMPANY, E. St. Louis, Illinois.

Aluminum Workers of America-CIO claims victory in recent election to resent employes.

AMERICAN PROPELLER CORP., Toledo, O.

Company controversy with UAW-CIO workers over job evaluation in certito NWLB.

AUSTIN COMPANY, Cleveland, O.

Appeal is made to NWLB over the Sixth Regional Board's decision that quantum pany bargain collectively with three AFL unions.

BENDIX AVIATION CORP., Brooklyn, N. Y.
Strike is ended after Government requests workers to return to the Strikers had demanded that Army or Navy take over control.

EDWARD G. BUDD MANUFACTURING CO., Philadelphia, Pa. Dispute over contract negotiations is certified to NWLB.

CHRYSLER CORP., Detroit, Mich.

UER&M-CIO workers stage unauthorized strike. Union requests 121/2c log increase.

DE HAVILLAND AIRCRAFT CO. OF CANADA, LTD., Toronto, Ont. Employes have voted for representation by UAW-CIO.

DUPLAN CO., Hazleton, Pa.

Employes walked out from parachute jobs when regional NWLB refusel intercede in wage dispute between company and Textile Workers-Cio.

FORD MOTOR CO., West Dearborn, Mich.

UAW-CIO workers staged an unauthorized strike in protest against promet two employes without seniority rights.

NORTH AMERICAN AVIATION, INC., Inglewood, Cal. Dallas plant employes voted for representation by UAW-CIO.

REMINGTON-RAND CO., Tonawanda, N. Y.

NWLB granted union security and dues check-off to IAM-AFL worken
Elmira.

ROHM & HAAS CO., INC., Philadelphia, Pa.

NWLB awards 14% increase for specified workers to compensate losses and
Executive Order 9240.

SPERRY GYROSCOPE CO. INC., Brooklyn, N. Y.
Strikes are called at three Brooklyn plants over management failure to contract-mediator appointed and decision is referred to NWLB.

Financial Briefs

CURTISS-WRIGHT Corp., New York. N. Y., directors have declared dividend of 50c a share on Class A stock, which was payable March 31 to holders of record March 22.

BOEING AIRPLANE Co., Seattle, Wash., has declared dividend of \$1.00 a share on outstanding capital stock, payable April 27 to holders of record April 6.

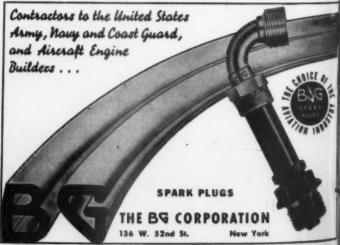
JACOBS AIRCRAFT ENGINE Co., Pottstown, Pa., during 1942 had net profit of \$2,048,221, equal to \$3.31 each on 618,546 shares, common, compared with 1941 net profit of \$928,756, or \$1.50. For 1942, company provided \$9.429,323 for Federal and state income taxes, against \$1.887,500 in 1941.

ALUMINUM CO. OF AMERICA. Pittsburgh, Pa., has reported net income for the year ended Dec. 31, 1942 of \$33. 361,761, equal to \$17.79 a share, contrasted with \$40.882,134, or \$2296 i 1941. Current assets as of Dec. I 1942 amounted to \$244,142,157, and ou rent liabilities were \$197,096,133.

McDONNELL AIRCRAFT Corp. 1 Louis, Mo., has announced payment of quarterly dividend of \$1.50 per has on preferred stock, which was schedule for April 1, to holders of record Mars 25.

UNITED AIRCRAFT PRODUCTS, Inc.
Dayton, O., has authorized an extra
dividend of 25c per share, and regular
quarterly dividend of 25c per share
common, both payable March 15.

ROHR AIRCRAFT Corp.. Chula Visa Cal., has reported net profit for for months ended Nov. 30, 1942 as \$788.18 equal to \$1.81 each on 435,000 shars For the year ended July 31, 1942, Rot had net profit of \$1,269,181, or \$28 a share after \$2,994,091 tax deduction.



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